



May 3, 2023

District Supervisor  
Oil Conservation Division, District 2  
811 S. First St.  
Artesia, New Mexico 88210

**Re: Release Characterization and Remediation Work Plan  
ConocoPhillips  
James A Waterflood Facility Release  
Unit Letter P, Section 2, Township 22 South, Range 30 East  
Eddy County, New Mexico  
Incident ID NAB1912758567  
2RP-5398**

Sir or Madam:

Tetra Tech, Inc. (Tetra Tech) was contacted by ConocoPhillips to assess a release that occurred as the result of a leak at the injection pump. The release footprint is located in Public Land Survey System (PLSS) Unit Letter P, Section 2, Township 22 South, Range 30 East, in Eddy County, New Mexico (Site). The approximate release point occurred at coordinates 32.416398°, -103.847207°, as shown on Figures 1 and 2.

## BACKGROUND

According to the State of New Mexico Oil Conservation Division (NMOCD) C-141 Initial Report, the release was discovered on March 25, 2019. Failed 3/8-inch stainless tubing attached to the injection pump at the James A Waterflood Facility (facility ID fMAP1829545945) resulted in the release of approximately 32 barrels (bbls) of produced water, of which 23 bbls were recovered. The NMOCD received the initial C-141 on May 7, 2019, and subsequently assigned the release the Remediation Permit (RP) number 2RP-5398 and the Incident ID NAB1912758567. The initial C-141 form is included in Appendix A.

According to a Corrective Action Plan (CAP) submitted to the NMOCD in 2019, there were three additional releases at the Site on August 24, 2018, August 30, 2018, and April 4, 2019. The August 30, 2018 release occurred as a result of a tank overflow when the injection station lost power during a thunderstorm, resulting in the release of 33 bbls of produced water, of which 25 bbls were recovered. Although an initial C-141 for the August 30, 2018 release was included in the CAP, there is no associated remediation permit number or incident ID.

Separate Release Characterization and Remediation Work Plans will be submitted for the August 24, 2018 (Incident ID NMAP1829546514/2RP-5017) and April 4, 2019 (Incident ID NAB1912759510/2RP-5399) releases. However, all four incidents will be addressed in this report due to their coincident footprints.

Tetra Tech

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## SITE CHARACTERIZATION

A site characterization was performed and no sinkholes, residences, schools, hospitals, institutions, churches, springs, private domestic water wells, springs, playa lakes, wetlands, incorporated municipal boundaries, subsurface mines, or floodplains are located within the distances specified in 19.15.29 New Mexico Administrative Code (NMAC). The Site is in an area of high karst potential. Additionally, several stream bodies were identified within ½ mile of the Site, but these have been identified as ephemeral drainage channels.

The Site is within a New Mexico oil and gas production area. According to the New Mexico Office of the State Engineers (NMOSE) reporting system, there are no water wells within ½ mile (800 meters) of the Site. There is (1) water well within 1.5 miles (2,400 meters) of the site with a depth to groundwater of 410 feet below ground surface (bgs).

As the available water level information is from a well further than ½ mile away from the site, ConocoPhillips elected to drill a boring to verify depth to groundwater. On September 26, 2022, a licensed well drilling subcontractor was onsite to drill a groundwater determination borehole (DTW) to 55 feet bgs along the edge of the James A Waterflood Facility pad. The borehole was temporarily set and screened using 2-inch PVC well materials. No water was present in the well during or after drilling. The well screen and casing were removed, and the borehole was plugged with 3/8-inch bentonite chips. The site characterization data, boring log, and temporary well diagram are included in Appendix B.

## LAND OWNERSHIP

The Site is located on land owned by the Bureau of Land Management (BLM). The release extent was confined to on-pad, previously disturbed areas.

## REGULATORY FRAMEWORK

Based upon the release footprint location and in accordance with Subsection E of 19.15.29.12 NMAC, per 19.15.29.11 NMAC, the site characterization data was used to determine recommended remedial action levels (RRALs) for benzene, toluene, ethylbenzene, and xylene (collectively referred to as BTEX), total petroleum hydrocarbons (TPH), and chlorides in soil.

Based on the high karst potential and in accordance with Table I of 19.15.29.12 NMAC, the proposed RRALs for the Site are as follows:

| Constituent | Reclamation RRAL |
|-------------|------------------|
| Chloride    | 600 mg/kg        |
| TPH         | 100 mg/kg        |
| BTEX        | 50 mg/kg         |
| Benzene     | 10 mg/kg         |

## INITIAL RESPONSE ACTIONS

According to the 2019 CAP, initial response actions taken following the August 24 and August 30, 2018 releases included excavating the release extent to approximately 2 feet bgs. Also according to the CAP, the March 25, 2019 (mistakenly identified as occurring on March 3<sup>rd</sup>) and April 4, 2019 releases both occurred within the excavation areas before backfilling occurred, and saturated soils were removed.

The CAP included a request to backfill portions of the excavation, and to resample other excavation areas, presumably where the 2019 releases occurred. The CAP was denied by Mike Bratcher of the NMOCD via email on Tuesday, May 7, 2019. Rationale for denial is as follows:

***“Assuming this is the remediation proposal for this release, it is DENIED due for the most part, for not meeting requirements of current spill rule [19.15.29] NMAC.***

***Here is a link to the rule: <http://164.64.110.134/parts/title19/19.015.0029.html>***

***Please review and resubmit including all documentation as required. Along with multiple other deficiencies, the analytical data needs to be in a table format with sample points clearly marked on a scaled site diagram.***

***The attachments you have sent are not legible, making this type submittal unacceptable. I would suggest a third party contractor be retained to formulate your proposal.”***

A copy of the regulatory correspondence is included as Appendix C. The excavation was backfilled, however, associated records are scarce.

### **SITE ASSESSMENT ACTIVITIES**

Given the history of the Site and the multiple associated incidents, on September 26, 2022, Tetra Tech personnel were onsite to oversee the installation of six (6) air rotary soil borings (B-1 through B-6), to a terminal depth of 20 feet bgs each. Soil borings were installed in the release area footprint to vertically delineate the extent of impacted soils. To complete horizontal delineation of the release footprint, Tetra Tech personnel returned to the Site on October 5, 2022 to install fifteen (15) hand auger borings (AH-1 through AH-15) to depths ranging from 1 to 5 feet bgs. Two additional air rotary borings (B-7 and B-8) were installed on and December 12, 2022 to a terminal depth of 30 feet bgs each to complete vertical delineation of the release extent. Soil assessment sampling locations are presented in Figure 4. Photographic documentation from the Site assessment activities is presented in Appendix D.

A total of ninety (90) soil samples were collected from the eight (8) air rotary borings and the fifteen (15) hand auger borings and submitted to Cardinal Laboratories in Hobbs, NM to be analyzed for chloride via EPA Method SM4500CI-B, BTEX via EPA Method 8021B, and TPH via EPA Method 8015M. Copies of the laboratory analytical reports are included as Appendix E.

On December 6, 2022, Ensolum, LLC was onsite at the James A Waterflood to perform additional soil sampling activities on behalf of COP. Boring locations BH-01 through BH-06 (Indicated on Figure 4) were installed to depths of 4 feet. Soil samples were collected from 1' and 4' bgs. Samples were submitted to Eurofins Carlsbad, based in Carlsbad, NM. Copies of the laboratory analytical reports are included as Appendix E.

### **SUMMARY OF SAMPLING RESULTS**

Analytical results for chloride exceeded the Site RRAL of 600 mg/kg in all interior borings (B-1 through B-6) at multiple variable sample intervals, as well as in the 0-1 and 2-3 foot bgs sample intervals at AH-11 and the 0-1, 2-3, and 4-5 foot bgs sample intervals at AH-15.

The analytical results for TPH exceeded the Site RRAL of 100 mg/kg in the 0-1 foot bgs sample intervals at boring locations B-3, AH-11, and AH-15. There were no detections of BTEX above the reporting limits in any of the analyzed samples. Results from the 2022 soil sampling events are summarized in Table 1. The release was successfully delineated horizontally and vertically as a result of the soil assessment activities.

The Ensolum analytical results were directly compared to the established Site RRALs. The analytical results associated with the sampled borings were below reclamation requirements/RRALs for all constituents. Results from the Ensolum soil sampling event are summarized in Table 2. These data points were used to refine the historical release extents at the Site.

## REMEDIATION WORK PLAN

Based on the analytical results, ConocoPhillips proposes to remove the remaining impacted material as shown in Figure 5. Impacted soils will be excavated using heavy equipment (backhoes, hoe rams, and track hoes) to a maximum depth of 4 feet below the surrounding surface or until a representative sample from the walls and bottom of the excavation is below the RRALs. Select areas containing pressurized lines will be hand-dug to a depth of 4 feet or the maximum extent practicable and heavy equipment will come no more than 3 ft from any pressurized lines. Substantial lease pad areas of the release footprint contain production tanks, electrical and/or pressurized lines, and associated production equipment where remediation could cause a major facility deconstruction. The remediation of these areas is proposed to be deferred until the equipment is removed during other operations, or when the facility is abandoned. Figure 5 provides the details on the areas proposed for deferral.

Excavated soils will be transported offsite and disposed of at an NMOCD-approved or permitted facility. In accordance with subsection D of 19.15.29.12 NMAC, the responsible party will notify the appropriate division district office prior to conducting confirmation sampling. Confirmation bottom and sidewall samples will be collected for verification of remedial activities, and analyzed for TPH, BTEX, and chlorides. Once results are received, the excavation will then be backfilled with clean material to surface grade. The estimated volume of material to be remediated is approximately 2,430 cubic yards.

## VARIANCE REQUEST

After characterization of this release, ConocoPhillips proposes to leave impacted soils (with concentrations greater than those specified in Table I) located below four (4) feet bgs in place. The release impact is fully delineated, groundwater in this area is deeper than 55 feet bgs, and the release footprint is located in areas immediately under or around pipelines where any further excavation past four feet bgs could cause a major facility deconstruction, and/or additional unwanted impact to the environment.

Additionally, the Site is located in an area with abundant potash reserves, and so naturally occurring soluble mineral salts such as sylvite (KCl) do lead to natural variations of chloride in the soils of the region. Given the depth to groundwater at the site and the naturally occurring mineral salts in soil at depth, deeper chloride concentrations observed in the assessment data could be the result of potassium salts in the form of nitrates, sulfates, and chlorides.

Thus, in accordance with 19.15.29.14(A) NMAC, ConocoPhillips requests a variance for the placement of a liner within the excavated area. A 20-mil reinforced poly liner will be installed and properly seated throughout the base of the excavation (at 4 feet below surrounding grade). The liner will provide an engineering control that will serve as a barrier and inhibit the downward migration of residual constituents.

## ALTERNATIVE CONFIRMATION SAMPLING PLAN

In accordance with 19.15.29.12(D)(1)(b) NMAC, ConocoPhillips proposes the following alternative confirmation sampling plan to adhere with NMOCD requirements. The proposed confirmation sample locations are depicted in Figure 6. Forty-two (42) confirmation floor samples and twenty-five (25) confirmation sidewall samples are proposed for verification of remedial activities. The proposed excavation encompasses a surface area of approximately 16,500 square feet.

These confirmation sidewall and floor samples will be representative of no more than approximately 400 square feet of excavated area. Confirmation samples will be sent to an accredited laboratory for analysis of chloride via EPA Method SM4500Cl-B or 300.0, BTEX via EPA Method 8021B, and TPH via EPA Method 8015M. Once results are received, NMOCD will be notified, and the excavation will then be backfilled with clean material to surface grade.

## CONCLUSION

Existing historical impacts from the three documented releases above Site RRALs found during the Site delineation and characterization have been vertically defined. All analytical results associated with the horizontal delineation sampling locations surrounding the release area were below applicable Site RRALs.

Release Characterization and Remediation Work Plan  
May 3, 2023

ConocoPhillips

As described above, COP will remediate impacted areas to four-foot bgs, as indicated in Figure 5. A liner will be placed at the base of the excavation. Per 19.15.29.12(2) NMAC, a deferral for the remediation, restoration, and reclamation for the remaining surface impact is requested until the equipment is removed during other operations, or when the facility is retrofitted or abandoned, whichever comes first. These areas proposed for deferral in Figure 5 are immediately under or around energized or pressurized lines could cause additional unwanted impact to the environment and/or present safety concerns for onsite personnel. Final remediation and reclamation of the remaining surficial impacts (0-4' bgs) shall take place in accordance with 19.15.29.12 and 19.15.29.13 NMAC once the site is no longer being used for oil and gas operations.

As described in the variance request, given the established DTW determination, the subsurface soils at the Site do not pose a threat to freshwater, human health, or the environment. The subsurface chloride concentrations observed in the assessment data are likely due to natural fluctuations in mineral salts in the region. The final C-141 forms are enclosed in Appendix A. If you have any questions concerning the soil assessment activities at the Site, please call me at (512) 739-7874 or Christian at (512) 288-6281.

Sincerely,

**Tetra Tech, Inc.**



Samantha K. Abbott, P.G.  
Project Manager



Christian M, Llull, P.G.  
Program Manager

cc:

Mr. Sam Widmer, RMR – ConocoPhillips

Ms. Shelly Tucker, BLM

## LIST OF ATTACHMENTS

### Figures:

- Figure 1 – Overview Map
- Figure 2 – Topographic Map
- Figure 3 – Approximate Release Extent
- Figure 4 – Approximate Release Extents and Site Assessment
- Figure 5 – Proposed Remediation and Deferment Extent
- Figure 6 – Alternative Confirmation Sampling Plan

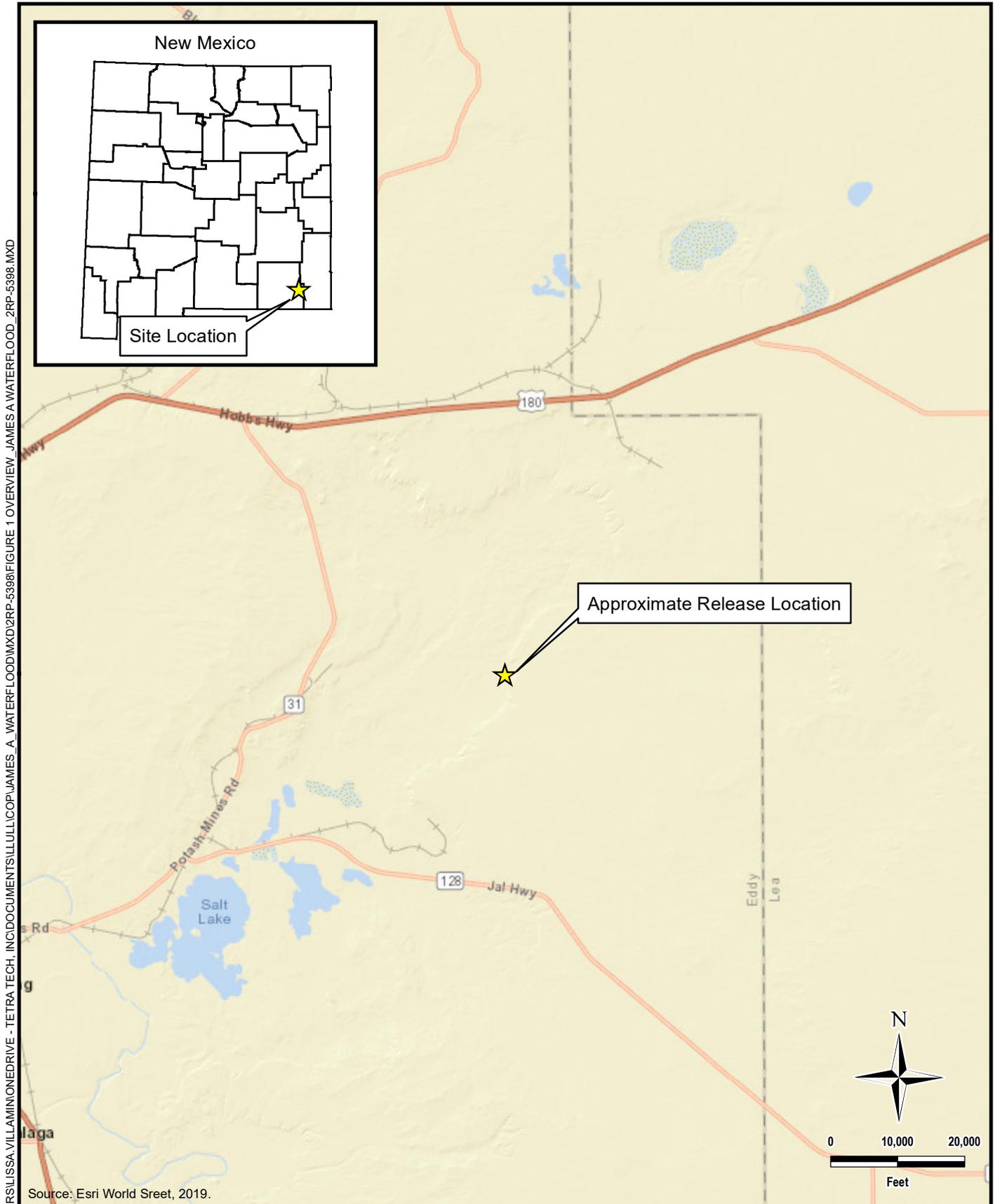
### Tables:

- Table 1 – Summary of Analytical Results – Soil Assessment
- Table 2 – Summary of Analytical Results – Additional Assessment

### Appendices:

- Appendix A – C-141 Forms
- Appendix B – Site Characterization Data
- Appendix C – Regulatory Correspondence
- Appendix D – Photographic Documentation
- Appendix E – Laboratory Analytical Data

# **FIGURES**



DOCUMENT PATH: C:\USERS\LISSA.VILLAMINONEDRIVE - TETRA TECH, INC\DOCUMENTS\ILLU\LOCOP\JAMES A. WATERFLOOD\MXD\2RP-5398\FIGURE 1 OVERVIEW - JAMES A WATERFLOOD\_2RP-5398.MXD

Source: Esri World Street, 2019.



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**CONOCOPHILLIPS**

(2RP-5398) NAB1912758567  
AOC 7275  
(32.416568°, -103.847294°)  
EDDY COUNTY, NEW MEXICO

**JAMES A WATERFLOOD FACILITY RELEASE  
OVERVIEW MAP**

PROJECT NO.: 212C-MD-02792

DATE: OCTOBER 26, 2022

DESIGNED BY: LMV

Figure No.

**1**

DOCUMENT PATH: C:\USERS\LISSA.VILLAMONEDRIVE - TETRA TECH, INC\DOCUMENTS\LISSA.VILLAMONEDRIVE\PROJECTS\JAMES A WATERFLOOD\FIGURE 2 TOPO - JAMES A WATERFLOOD\_2RP-5398.MXD

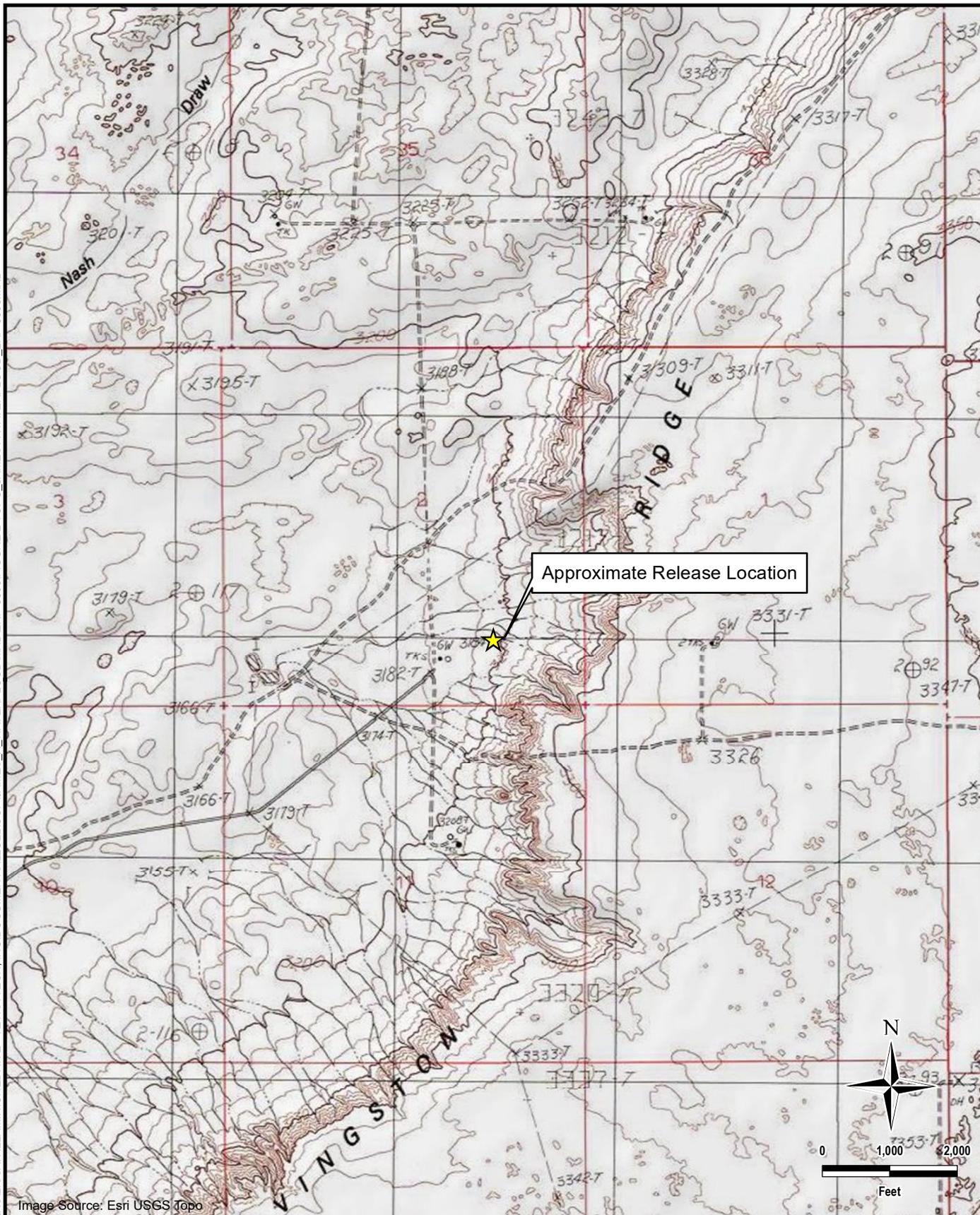


Image Source: Esri USGS Topo



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**CONOCOPHILLIPS**

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AOC 7275  
(32.416568°, -103.847294°)  
EDDY COUNTY, NEW MEXICO

**JAMES A WATERFLOOD FACILITY RELEASE  
TOPOGRAPHIC MAP**

PROJECT NO.: 212C-MD-027962

DATE: OCTOBER 26, 2022

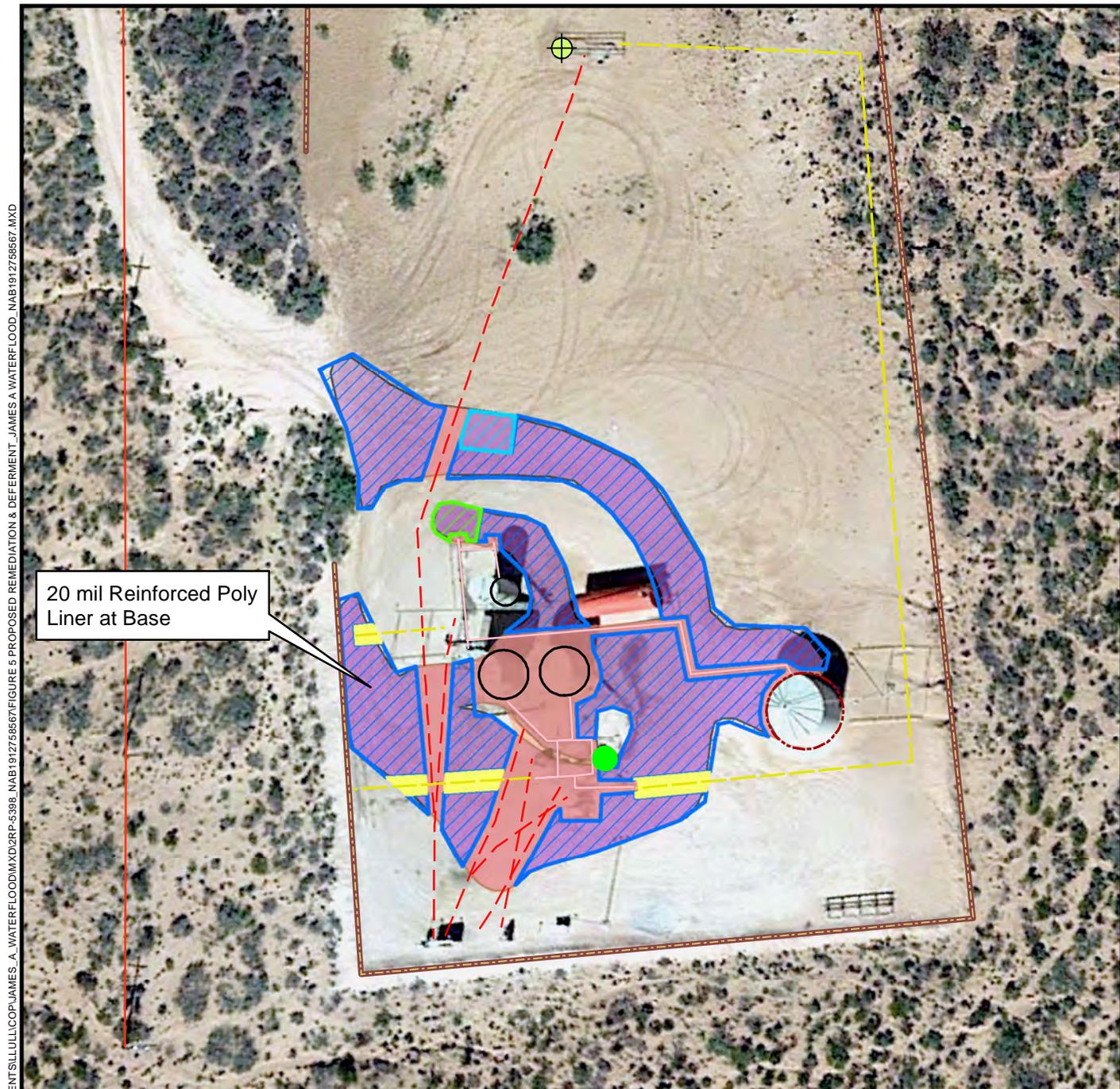
DESIGNED BY: LMV

Figure No.

**2**







20 mil Reinforced Poly Liner at Base

DOCUMENT PATH: C:\USERS\ISSA.VILLAMONEDRIVE - TETRA TECH\INC\DOCUMENTS\ILLUSTRATIONS\JAMES\_A\_WATERFLOOD\MD\DRP-5398\_NAB1912758567\FIGURE 5 PROPOSED REMEDIATION & DEFERMENT\_JAMES A WATERFLOOD\_NAB1912758567.MXD

| Legend |                              |  |                            |  |                           |
|--------|------------------------------|--|----------------------------|--|---------------------------|
|        | Combined Affected Area       |  | Injection Well             |  | Tank                      |
|        | Proposed Excavation - 1' BGS |  | Injection Pump             |  | Aboveground Piping        |
|        | Proposed Excavation - 3' BGS |  | Earthen Berm               |  | Overhead Electrical Line  |
|        | Proposed Excavation - 4' BGS |  | Decommissioned Tank Vessel |  | Subsurface Electric Line  |
|        | Hand Dig                     |  |                            |  | Subsurface Oil & Gas Line |
|        | Proposed Deferment           |  |                            |  |                           |

BGS: Below Ground Surface Source: Google Earth Imagery, 2017.

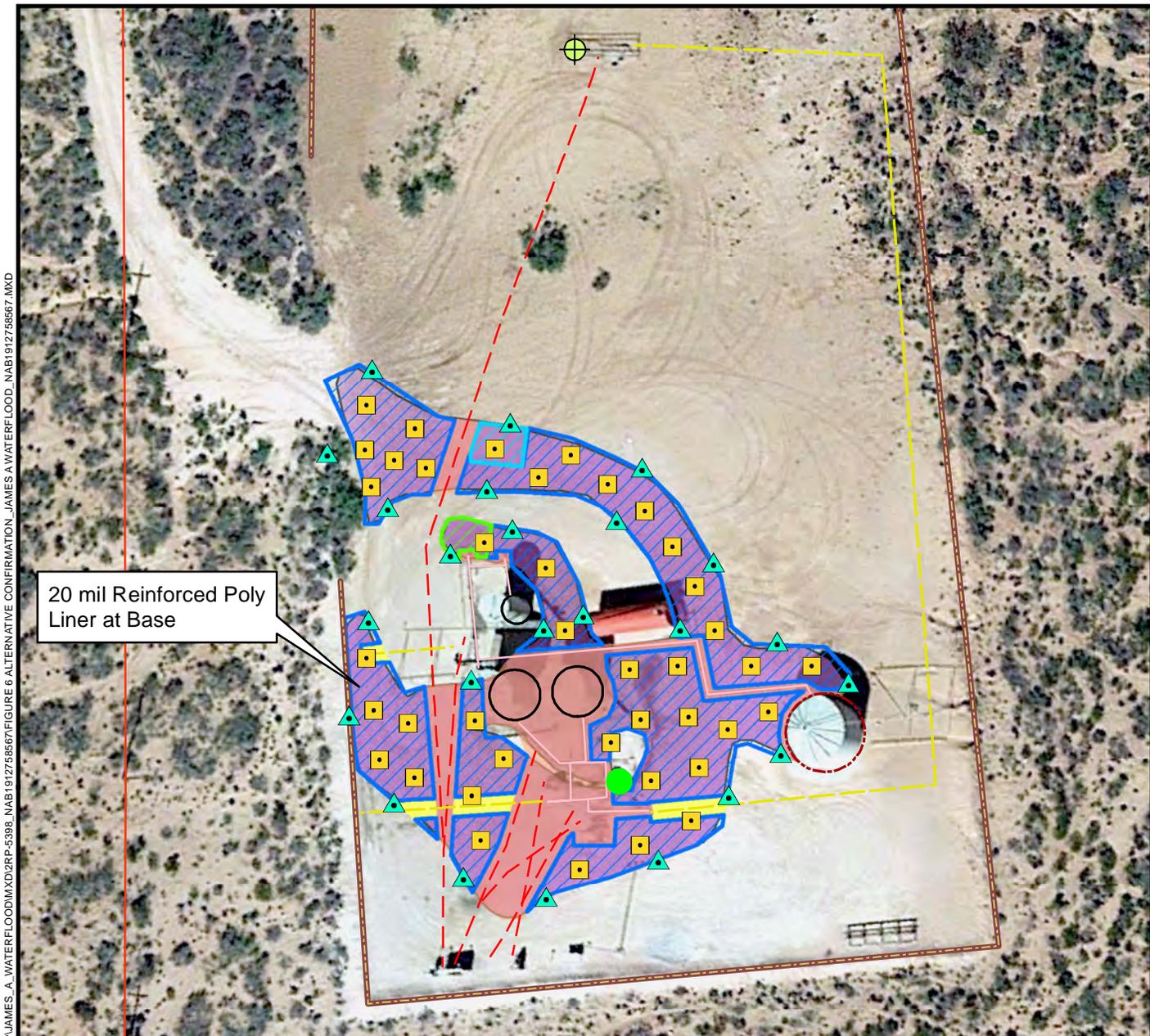


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**CONOCOPHILLIPS**  
 (2RP-5398) NAB1912758567  
 (32.416568°, -103.847294°)  
 EDDY COUNTY, NEW MEXICO

**JAMES A WATERFLOOD INJECTION PUMP TUBING RELEASE  
 PROPOSED REMEDIATION AND DEFERMENT EXTENT**

|              |                |
|--------------|----------------|
| PROJECT NO.: | 212C-MD-02792  |
| DATE:        | APRIL 11, 2023 |
| DESIGNED BY: | LMV            |
| Figure No.   | <b>5</b>       |



20 mil Reinforced Poly Liner at Base

**Legend**

- Combined Affected Area Extent
- Proposed Excavation - 1' BGS
- Proposed Excavation - 3' BGS
- Proposed Excavation - 4' BGS
- Hand Dig Area
- Proposed Deferment
- Injection Well
- Injection Pump
- Confirmation Floor Sample Location
- Confirmation Sidewall Sample Location
- Earthen Berm
- Decommissioned Tank Vessel
- Tank
- Aboveground Piping
- Overhead Electrical Line
- Subsurface Electric Line
- Subsurface Oil & Gas Line



BGS: Below Ground Surface

Source: Google Earth Imagery, 2017.

|   |   |                                   |
|---|---|-----------------------------------|
| <p><b>TETRA TECH</b></p> <p>www.tetratech.com</p> <p>901 West Wall Street, Suite 100<br/>Midland, Texas 79701<br/>Phone: (432) 682-4559<br/>Fax: (432) 682-3946</p> | <p><b>CONOCOPHILLIPS</b></p> <p>(2RP-5398) NAB1912758567<br/>(32.416568°, -103.847294°)<br/>EDDY COUNTY, NEW MEXICO</p> | <p>PROJECT NO.: 212C-MD-02792</p> |
|   | <p><b>JAMES A WATERFLOOD INJECTION LINE RELEASE<br/>ALTERNATIVE CONFIRMATION SAMPLING PLAN</b></p>                      |                                   |
|   | <p>DATE: APRIL 11, 2023</p> <p>DESIGNED BY: LMV</p>   |                                   |
| <p>Figure No.</p> <p style="font-size: 24px; font-weight: bold;">6</p>  |   |                                   |

# **TABLES**

TABLE 1  
 SUMMARY OF ANALYTICAL RESULTS  
 SOIL ASSESSMENT- 2RP-5398 / nAB1912758567  
 CONOCOPHILLIPS  
 JAMES A WATERFLOOD (MULTIPLE RELEASES)  
 EDDY COUNTY, NM

| Sample ID | Sample Date | Sample Depth<br>ft. bgs                                       | Field Screening Results |                     | Chloride <sup>1</sup> |                      | BTEX <sup>2</sup> |    |         |    |              | TPH <sup>3</sup> |               |                      |         |    |        |    |         |                   |                                |   |       |   |       |
|-----------|-------------|---|-------------------------|---------------------|-----------------------|----------------------|-------------------|----|---------|----|--------------|------------------|---------------|----------------------|---------|----|--------|----|---------|-------------------|--------------------------------|---|-------|---|-------|
|           |             |   | Chloride                | PID                 | mg/kg                 | Q                    | Benzene           |    | Toluene |    | Ethylbenzene |                  | Total Xylenes |                      | GRO     |    | DRO    |    | EXT DRO | (GRO+DRO)         | Total TPH<br>(GRO+DRO+EXT DRO) |   |       |   |       |
|           |             |   | ppm                     | ppm                 | mg/kg                 | Q                    | mg/kg             | Q  | mg/kg   | Q  | mg/kg        | Q                | mg/kg         | Q                    | mg/kg   | Q  | mg/kg  | Q  | mg/kg   |                   |                                | Q |       |   |       |
|           |             | <b>Closure Criteria for Pasture / Off-Pad Soils 0-4' bgs:</b> |                         | <i>600 mg/kg</i>    |                       | <i>&lt; 10 mg/kg</i> |                   | -- |         | -- |              | --               |               | <i>&lt; 50 mg/kg</i> |         | -- |        | -- |         | --                | <i>100 mg/kg</i>               |   |       |   |       |
|           |             | <b>Closure Criteria for Soils &gt;4' bgs (GW 50-100 ft):</b>  |                         | <i>10,000 mg/kg</i> |                       | <i>&lt; 10 mg/kg</i> |                   | -- |         | -- |              | --               |               | <i>&lt; 50 mg/kg</i> |         | -- |        | -- |         | <i>1000 mg/kg</i> | <i>2500 mg/kg</i>              |   |       |   |       |
| B-1       | 9/26/2022   | 0-1   | -                       | -                   | 192                   |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 2-3   | -                       | -                   | 800                   |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 3-4   | -                       | -                   | 1,250                 |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 4-5   | -                       | -                   | 1,920                 |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 6-7   | -                       | -                   | 1,600                 |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 8-9   | -                       | -                   | 224                   |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 14-15   | -                       | -                   | 288                   |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 19-20   | -                       | -                   | 800                   |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
| B-2       | 9/26/2022   | 0-1   | -                       | -                   | 288                   |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 2-3   | -                       | -                   | 224                   |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 3-4   | -                       | -                   | 256                   |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 4-5   | -                       | -                   | 176                   |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 6-7   | -                       | -                   | 272                   |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 8-9   | -                       | -                   | 288                   |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 14-15   | -                       | -                   | 864                   |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 19-20   | -                       | -                   | 1,800                 |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
| B-3       | 9/26/2022   | 0-1   | -                       | -                   | 5,120                 |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | 1,150   |                   | 248                            |   | 1,150 |   | 1,398 |
|           |             | 2-3   | -                       | -                   | 2,880                 |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | 37.9    |                   | 24                             |   | 37.9  |   | 61.9  |
|           |             | 3-4   | -                       | -                   | 1,790                 |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 4-5   | -                       | -                   | 1,360                 |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 6-7   | -                       | -                   | 1,780                 |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 8-9   | -                       | -                   | 1,340                 |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 14-15   | -                       | -                   | 1,420                 |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 19-20   | -                       | -                   | 1,310                 |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
| B-4       | 9/26/2022   | 0-1   | -                       | -                   | 9,730                 |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 2-3   | -                       | -                   | 2,800                 |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 3-4   | -                       | -                   | 3,280                 |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 4-5   | -                       | -                   | 3,000                 |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 6-7   | -                       | -                   | 3,080                 |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 8-9   | -                       | -                   | 2,800                 |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 14-15   | -                       | -                   | 800                   |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |
|           |             | 19-20   | -                       | -                   | 352                   |                      | < 0.050           |    | < 0.050 |    | < 0.050      |                  | < 0.150       |                      | < 0.300 |    | < 10.0 |    | < 10.0  |                   | < 10.0                         |   | --    | - |       |

**TABLE 1**  
**SUMMARY OF ANALYTICAL RESULTS**  
**SOIL ASSESSMENT- 2RP-5398 / nAB1912758567**  
**CONOCOPHILLIPS**  
**JAMES A WATERFLOOD (MULTIPLE RELEASES)**  
**EDDY COUNTY, NM**

| Sample ID  | Sample Date | Sample Depth<br>ft. bgs | Field Screening Results |     | Chloride <sup>1</sup> |   | BTEX <sup>2</sup> |   |         |   |              | TPH <sup>3</sup> |               |   |         |   |        |   |         |   |            |                                |       |      |
|--|-------------|-------------------------|-------------------------|-----|-----------------------|---|-------------------|---|---------|---|--------------|------------------|---------------|---|---------|---|--------|---|---------|---|------------|--------------------------------|-------|------|
|  |             |                         | Chloride                | PID | mg/kg                 | Q | Benzene           |   | Toluene |   | Ethylbenzene |                  | Total Xylenes |   | GRO     |   | DRO    |   | EXT DRO |   | (GRO+DRO)  | Total TPH<br>(GRO+DRO+EXT DRO) |       |      |
|  |             |                         |                         |     |                       |   | mg/kg             | Q | mg/kg   | Q | mg/kg        | Q                | mg/kg         | Q | mg/kg   | Q | mg/kg  | Q | mg/kg   | Q |            |                                | mg/kg | Q    |
| Closure Criteria for Pasture / Off-Pad Soils 0-4' bgs: |             |                         |                         |     | 600 mg/kg             |   | < 10 mg/kg        |   | --      |   | --           |                  | < 50 mg/kg    |   | --      |   | --     |   | --      |   | 100 mg/kg  |                                |       |      |
| Closure Criteria for Soils >4' bgs (GW 50-100 ft):     |             |                         |                         |     | 10,000 mg/kg          |   | < 10 mg/kg        |   | --      |   | --           |                  | < 50 mg/kg    |   | --      |   | --     |   | --      |   | 1000 mg/kg | 2500 mg/kg                     |       |      |
| B-5  | 9/26/2022   | 0-1                     | -                       | -   | 1,920                 |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 2-3                     | -                       | -   | 960                   |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 3-4                     | -                       | -   | 1,150                 |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 4-5                     | -                       | -   | 1,060                 |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 6-7                     | -                       | -   | 1,520                 |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 8-9                     | -                       | -   | 2,200                 |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 14-15                   | -                       | -   | 944                   |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 19-20                   | -                       | -   | 1,760                 |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
| B-6  | 9/26/2022   | 0-1                     | -                       | -   | 128                   |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 2-3                     | -                       | -   | 208                   |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 3-4                     | -                       | -   | 688                   |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 4-5                     | -                       | -   | 1,040                 |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 6-7                     | -                       | -   | 1,310                 |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 8-9                     | -                       | -   | 1,460                 |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 14-15                   | -                       | -   | 1,380                 |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 19-20                   | -                       | -   | 1,390                 |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
| B-7  | 12/12/2022  | 0-1                     | -                       | -   | 8,260                 |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 2-3                     | -                       | -   | 4,000                 |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 3-4                     | -                       | -   | 976                   |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 4-5                     | -                       | -   | 336                   |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 6-7                     | -                       | -   | 272                   |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 8-9                     | -                       | -   | 224                   |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 14-15                   | -                       | -   | 336                   |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 19-20                   | -                       | -   | 176                   |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 24-25                   | -                       | -   | 128                   |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
| 29-30  | -           | -                       | 128                     |     | < 0.050               |   | < 0.050           |   | < 0.050 |   | < 0.150      |                  | < 0.300       |   | < 10.0  |   | < 10.0 |   | < 10.0  |   | --         | -                              |       |      |
| B-8  | 12/12/2022  | 0-1                     | -                       | -   | 752                   |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | 45.2    |   | < 10.0     |                                | 45.2  | 45.2 |
|  |             | 2-3                     | -                       | -   | 240                   |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 3-4                     | -                       | -   | 368                   |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 4-5                     | -                       | -   | 336                   |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 6-7                     | -                       | -   | 320                   |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 8-9                     | -                       | -   | 256                   |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 14-15                   | -                       | -   | 320                   |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 19-20                   | -                       | -   | 176                   |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
|  |             | 24-25                   | -                       | -   | 672                   |   | < 0.050           |   | < 0.050 |   | < 0.050      |                  | < 0.150       |   | < 0.300 |   | < 10.0 |   | < 10.0  |   | < 10.0     |                                | --    | -    |
| 29-30  | -           | -                       | 624                     |     | < 0.050               |   | < 0.050           |   | < 0.050 |   | < 0.150      |                  | < 0.300       |   | < 10.0  |   | < 10.0 |   | < 10.0  |   | --         | -                              |       |      |

TABLE 1  
SUMMARY OF ANALYTICAL RESULTS  
SOIL ASSESSMENT- 2RP-5398 / nAB1912758567  
CONOCOPHILLIPS  
JAMES A WATERFLOOD (MULTIPLE RELEASES)  
EDDY COUNTY, NM

| Sample ID  | Sample Date | Sample Depth<br>ft. bgs | Field Screening Results |            | Chloride <sup>1</sup> |    | BTEX <sup>2</sup> |    |         |    |              | TPH <sup>3</sup> |               |    |        |    |       |    |            |            |           |                                |       |              |
|--|-------------|-------------------------|-------------------------|------------|-----------------------|----|-------------------|----|---------|----|--------------|------------------|---------------|----|--------|----|-------|----|------------|------------|-----------|--------------------------------|-------|--------------|
|  |             |                         | Chloride                | PID        | mg/kg                 | Q  | Benzene           |    | Toluene |    | Ethylbenzene |                  | Total Xylenes |    | GRO    |    | DRO   |    | EXT DRO    |            | (GRO+DRO) | Total TPH<br>(GRO+DRO+EXT DRO) |       |              |
|  |             |                         |                         |            |                       |    | mg/kg             | Q  | mg/kg   | Q  | mg/kg        | Q                | mg/kg         | Q  | mg/kg  | Q  | mg/kg | Q  | mg/kg      | Q          |           |                                | mg/kg | Q            |
| Closure Criteria for Pasture / Off-Pad Soils 0-4' bgs: |             |                         | 600 mg/kg               | < 10 mg/kg | --                    | -- | --                | -- | --      | -- | --           | --               | --            | -- | --     | -- | --    | -- | --         | 100 mg/kg  |           |                                |       |              |
| Closure Criteria for Soils >4' bgs (GW 50-100 ft):     |             |                         | 10,000 mg/kg            | < 10 mg/kg | --                    | -- | --                | -- | --      | -- | --           | --               | --            | -- | --     | -- | --    | -- | 1000 mg/kg | 2500 mg/kg |           |                                |       |              |
| AH-1   | 10/5/2022   | 0-1                     | 75.5                    | -          | 32.0                  |    | <0.050            |    | <0.050  |    | <0.050       |                  | <0.150        |    | <0.300 |    | <10.0 |    | <10.0      |            | <10.0     |                                | --    | -            |
| AH-2   | 10/5/2022   | 0-1                     | 193                     | -          | 112                   |    | <0.050            |    | <0.050  |    | <0.050       |                  | <0.150        |    | <0.300 |    | <10.0 |    | 13.8       |            | 11.3      |                                | 13.8  | 25.1         |
| AH-3   | 10/5/2022   | 0-1                     | 307                     | -          | 128                   |    | <0.050            |    | <0.050  |    | <0.050       |                  | <0.150        |    | <0.300 |    | <10.0 |    | <10.0      |            | <10.0     |                                | --    | -            |
| AH-4   | 10/5/2022   | 0-1                     | 299                     | -          | 128                   |    | <0.050            |    | <0.050  |    | <0.050       |                  | <0.150        |    | <0.300 |    | <10.0 |    | <10.0      |            | <10.0     |                                | --    | -            |
| AH-5   | 10/5/2022   | 0-1                     | 48.8                    | -          | 16.0                  |    | <0.050            |    | <0.050  |    | <0.050       |                  | <0.150        |    | <0.300 |    | <10.0 |    | <10.0      |            | <10.0     |                                | --    | -            |
| AH-6   | 10/5/2022   | 0-1                     | 67.3                    | -          | 32.0                  |    | <0.050            |    | <0.050  |    | <0.050       |                  | <0.150        |    | <0.300 |    | <10.0 |    | <10.0      |            | <10.0     |                                | --    | -            |
| AH-7   | 10/5/2022   | 0-1                     | 193                     | -          | 112                   |    | <0.050            |    | <0.050  |    | <0.050       |                  | <0.150        |    | <0.300 |    | <10.0 |    | <10.0      |            | <10.0     |                                | --    | -            |
| AH-8   | 10/5/2022   | 0-1                     | 543                     | -          | 288                   |    | <0.050            |    | <0.050  |    | <0.050       |                  | <0.150        |    | <0.300 |    | <10.0 |    | <10.0      |            | <10.0     |                                | --    | -            |
| AH-9   | 10/5/2022   | 0-1                     | 61.3                    | -          | 32.0                  |    | <0.050            |    | <0.050  |    | <0.050       |                  | <0.150        |    | <0.300 |    | <10.0 |    | <10.0      |            | <10.0     |                                | --    | -            |
| AH-10  | 10/5/2022   | 0-1                     | 130                     | -          | 32.0                  |    | <0.050            |    | <0.050  |    | <0.050       |                  | <0.150        |    | <0.300 |    | <10.0 |    | <10.0      |            | <10.0     |                                | --    | -            |
| AH-11  | 10/5/2022   | 0-1                     | 5870                    | -          | <b>5,360</b>          |    | <0.050            |    | <0.050  |    | <0.050       |                  | <0.150        |    | <0.300 |    | <10.0 |    | 95.7       |            | 23.5      |                                | 95.7  | <b>119.2</b> |
|  |             | 2-3                     | 2000                    | -          | <b>2,400</b>          |    | <0.050            |    | <0.050  |    | <0.050       |                  | <0.150        |    | <0.300 |    | <10.0 |    | <10.0      |            | <10.0     |                                | --    | -            |
|  |             | 4-5                     | 701                     | -          | 400                   |    | <0.050            |    | <0.050  |    | <0.050       |                  | <0.150        |    | <0.300 |    | <10.0 |    | <10.0      |            | <10.0     |                                | --    | -            |
| AH-12  | 10/5/2022   | 0-1                     | 107                     | -          | 32.0                  |    | <0.050            |    | <0.050  |    | <0.050       |                  | <0.150        |    | <0.300 |    | <10.0 |    | 31.8       |            | <10.0     |                                | 31.8  | 31.8         |
|  |             | 2-3                     | 97                      | -          | 32.0                  |    | <0.050            |    | <0.050  |    | <0.050       |                  | <0.150        |    | <0.300 |    | <10.0 |    | <10.0      |            | <10.0     |                                | --    | -            |
| AH-13  | 10/5/2022   | 0-1                     | 81.2                    | -          | 16.0                  |    | <0.050            |    | <0.050  |    | <0.050       |                  | <0.150        |    | <0.300 |    | <10.0 |    | <10.0      |            | <10.0     |                                | --    | -            |
|  |             | 2-3                     | 87.8                    | -          | 16.0                  |    | <0.050            |    | <0.050  |    | <0.050       |                  | <0.150        |    | <0.300 |    | <10.0 |    | <10.0      |            | <10.0     |                                | --    | -            |
| AH-14  | 10/5/2022   | 0-1                     | 683                     | -          | 384                   |    | <0.050            |    | <0.050  |    | <0.050       |                  | <0.150        |    | <0.300 |    | <10.0 |    | <10.0      |            | <10.0     |                                | --    | -            |
|  |             | 2-3                     | 578                     | -          | 320                   |    | <0.050            |    | <0.050  |    | <0.050       |                  | <0.150        |    | <0.300 |    | <10.0 |    | <10.0      |            | <10.0     |                                | --    | -            |
| AH-15  | 10/5/2022   | 0-1                     | 1205                    | -          | <b>12,400</b>         |    | <0.050            |    | <0.050  |    | <0.050       |                  | <0.150        |    | <0.300 |    | <10.0 |    | 190        |            | 52.7      |                                | 190   | <b>242.7</b> |
|  |             | 2-3                     | 5370                    | -          | <b>5,840</b>          |    | <0.050            |    | <0.050  |    | <0.050       |                  | <0.150        |    | <0.300 |    | <10.0 |    | <10.0      |            | <10.0     |                                | --    | -            |
|  |             | 4-5                     | 2100                    | -          | <b>2,840</b>          |    | <0.050            |    | <0.050  |    | <0.050       |                  | <0.150        |    | <0.300 |    | <10.0 |    | <10.0      |            | <10.0     |                                | --    | -            |

NOTES:

- ft. Feet
- bgs Below ground surface
- mg/kg Milligrams per kilogram
- TPH Total Petroleum Hydrocarbons
- GRO Gasoline range organics
- DRO Diesel range organics
- 1 Method SM4500CI-B
- 2 Method 8021B
- 3 Method 8015M

**Bold and italicized values indicate exceedance of proposed Remediation RRALs and Reclamation Requirements.**

Shaded rows indicate intervals proposed for excavation.

QUALIFIERS:

TABLE 2  
 SUMMARY OF ADDITIONAL ANALYTICAL RESULTS  
 SOIL ASSESSMENT - NMAP1829546514 (2RP-5398)  
 CONOCOPHILLIPS  
 JAMES A WATERFLOOD FACILITY  
 EDDY COUNTY, NM

| Sample ID | Sample Date | Sample Depth  | Field Screening Results |                     | Chloride <sup>1</sup> |                      | BTEX <sup>2</sup> |    |          |    |              |    |               |                      | TPH <sup>3</sup> |    |       |    |       |    |         |                   |           |                                |       |
|-----------|-------------|---|-------------------------|---------------------|-----------------------|----------------------|-------------------|----|----------|----|--------------|----|---------------|----------------------|------------------|----|-------|----|-------|----|---------|-------------------|-----------|--------------------------------|-------|
|           |             |   | Chloride                | PID                 |                       |                      | Benzene           |    | Toluene  |    | Ethylbenzene |    | Total Xylenes |                      | Total BTEX       |    | GRO   |    | DRO   |    | EXT DRO |                   | (GRO+DRO) | Total TPH<br>(GRO+DRO+EXT DRO) |       |
|           |             |   | mg/kg                   | ppm                 | mg/kg                 | Q                    | mg/kg             | Q  | mg/kg    | Q  | mg/kg        | Q  | mg/kg         | Q                    | mg/kg            | Q  | mg/kg | Q  | mg/kg | Q  | mg/kg   | Q                 |           |                                | mg/kg |
|           |             |   | ft. bgs                 |                     | mg/kg                 | Q                    | mg/kg             | Q  | mg/kg    | Q  | mg/kg        | Q  | mg/kg         | Q                    | mg/kg            | Q  | mg/kg | Q  | mg/kg | Q  | mg/kg   | Q                 | mg/kg     | Q                              | mg/kg |
|           |             | <b>Closure Criteria for Pasture / Off-Pad Soils 0-4' bgs:</b> |                         | <i>600 mg/kg</i>    |                       | <i>&lt; 10 mg/kg</i> |                   | -- |          | -- |              | -- |               | <i>&lt; 50 mg/kg</i> |                  | -- |       | -- |       | -- |         | --                |           | <i>100 mg/kg</i>               |       |
|           |             | <b>Closure Criteria for Soils &gt;4' bgs (GW 50-100 ft):</b>  |                         | <i>10,000 mg/kg</i> |                       | <i>&lt; 10 mg/kg</i> |                   | -- |          | -- |              | -- |               | <i>&lt; 50 mg/kg</i> |                  | -- |       | -- |       | -- |         | <i>1000 mg/kg</i> |           | <i>2500 mg/kg</i>              |       |
| BH01      | 12/6/2022   | 1'  |                         |                     | 16.8                  |                      | <0.00202          |    | <0.00202 |    | <0.00202     |    | <0.00404      |                      | <0.00404         |    | <49.9 |    | <49.9 |    | <49.9   |                   | <49.9     |                                | <49.9 |
|           |             | 4'  |                         |                     | 54.4                  |                      | <0.00199          |    | <0.00199 |    | <0.00199     |    | <0.00398      |                      | <0.00398         |    | <49.8 |    | <49.8 |    | <49.8   |                   | <49.8     |                                | <49.8 |
| BH02      | 12/6/2022   | 1'  |                         |                     | 5.94                  |                      | <0.00199          |    | <0.00199 |    | <0.00199     |    | <0.00398      |                      | <0.00398         |    | <50.0 |    | <50.0 |    | <50.0   |                   | <50.0     |                                | <50.0 |
|           |             | 4'  |                         |                     | 35.4                  |                      | <0.00199          |    | <0.00199 |    | <0.00199     |    | <0.00398      |                      | <0.00398         |    | <50.0 |    | <50.0 |    | <50.0   |                   | <50.0     |                                | <50.0 |
| BH03      | 12/6/2022   | 1'  |                         |                     | 506                   |                      | <0.00198          |    | <0.00198 |    | <0.00198     |    | <0.00396      |                      | <0.00396         |    | <49.9 |    | 56.9  |    | <49.9   |                   | 56.9      |                                | 56.9  |
|           |             | 4'  |                         |                     | 542                   |                      | <0.00200          |    | <0.00200 |    | <0.00200     |    | <0.00401      |                      | <0.00401         |    | <49.9 |    | 65.5  |    | <49.9   |                   | 65.5      |                                | 65.5  |
| BH04      | 12/6/2022   | 1'  |                         |                     | 578                   |                      | <0.00201          |    | <0.00201 |    | <0.00201     |    | <0.00402      |                      | <0.00402         |    | <50.0 |    | <50.0 |    | <50.0   |                   | <50.0     |                                | <50.0 |
|           |             | 4'  |                         |                     | 87.5                  |                      | <0.00201          |    | <0.00201 |    | <0.00201     |    | <0.00402      |                      | <0.00402         |    | <49.9 |    | <49.9 |    | <49.9   |                   | <49.9     |                                | <49.9 |
| BH05      | 12/6/2022   | 1'  |                         |                     | 23.5                  |                      | <0.00199          |    | <0.00199 |    | <0.00199     |    | <0.00398      |                      | <0.00398         |    | <49.9 |    | <49.9 | *1 | <49.9   |                   | <49.9     |                                | <49.9 |
|           |             | 4'  |                         |                     | 93.9                  |                      | <0.00200          |    | <0.00200 |    | <0.00200     |    | <0.00401      |                      | <0.00401         |    | <50.0 |    | <50.0 | *1 | <50.0   |                   | <50.0     |                                | <50.0 |
| BH06      | 12/6/2022   | 1'  |                         |                     | 146                   |                      | <0.00199          |    | <0.00199 |    | <0.00199     |    | <0.00398      |                      | <0.00398         |    | <50.0 |    | <50.0 | *1 | <50.0   |                   | <50.0     |                                | <50.0 |
|           |             | 4'  |                         |                     | 171                   |                      | <0.00200          |    | <0.00200 |    | <0.00200     |    | <0.00399      |                      | <0.00399         |    | <50.0 |    | <50.0 | *1 | <50.0   |                   | <50.0     |                                | <50.0 |

NOTES:

- ft. Feet
- bgs Below ground surface
- mg/kg Milligrams per kilogram
- TPH Total Petroleum Hydrocarbons
- GRO Gasoline range organics
- DRO Diesel range organics
- 1 Method SM4500CI-B
- 2 Method 8021B
- 3 Method 8015M

***Bold and italicized values indicate exceedance of proposed Remediation RRALs and Reclamation Requirements.***

Shaded rows indicate intervals proposed for excavation.

QUALIFIERS:

\*1 LCS/LCSD RPD exceeds control limits.

# **APPENDIX A C-141 Forms**

District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-141  
Revised August 24, 2018  
Submit to appropriate OCD District office

|                |                |
|----------------|----------------|
| Incident ID    | NAB1912758567  |
| District RP    | 2RP-5398       |
| Facility ID    | fMAP1829545945 |
| Application ID | pAB1912757337  |

## Release Notification

### Responsible Party

|   |  |
|---|--|
| Responsible Party ConocoPhillips                          | OGRID 217817                               |
| Contact Name Justin Wright                                | Contact Telephone +1-575-631-9092          |
| Contact email Justin.Wright@conocophillips.com            | Incident # (assigned by OCD) NAB1912758567 |
| Contact mailing address 29 Vacuum Complex Lane, Lovington |  |

### Location of Release Source

Latitude 32.41692 Longitude -103.84735  
(NAD 83 in decimal degrees to 5 decimal places)

|                                     |   |
|-------------------------------------|---|
| Site Name: James A Waterfld         | Site Type: Water flood                      |
| Date Release Discovered: 03/25/2019 | API# (if applicable) 3001526761 ** Facility |

| Unit Letter | Section | Township | Range | County |
|-------------|---------|----------|-------|--------|
| P           | 2       | 22S      | 30E   | Eddy   |

Surface Owner:  State  Federal  Tribal  Private (Name: \_\_\_\_\_)

### Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Crude Oil                 | Volume Released (bbls)   | Volume Recovered (bbls)   |
| <input checked="" type="checkbox"/> Produced Water | Volume Released (bbls) 32  | Volume Recovered (bbls) 23  |
|  | Is the concentration of dissolved chloride in the produced water >10,000 mg/l? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| <input type="checkbox"/> Condensate                | Volume Released (bbls)   | Volume Recovered (bbls)   |
| <input type="checkbox"/> Natural Gas               | Volume Released (Mcf)  | Volume Recovered (Mcf)  |
| <input type="checkbox"/> Other (describe)          | Volume/Weight Released (provide units)   | Volume/Weight Recovered (provide units)                             |

#### Cause of Release

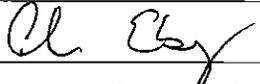
Failed 3/8" Stainless tubing attached to the injection pump

|                |                |
|----------------|----------------|
| Incident ID    | NAB1912758567  |
| District RP    | 2RP-5398       |
| Facility ID    | fMAP1829545945 |
| Application ID | pAB1912757337  |

|  |   |
|--|---|
| Was this a major release as defined by 19.15.29.7(A) NMAC?<br><br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  | If YES, for what reason(s) does the responsible party consider this a major release?<br><br>An authorized release of a volume, excluding gas, in excess of 25 bbls. |
| If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?<br><br>Immediate notification was given by Christopher Ebey (COP HSE) to Jim Griswald via telephone (505.476.3465) on 3/25/19 @ 14:41 |   |

### Initial Response

*The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury*

|  |                                |
|--|--------------------------------|
| <input checked="" type="checkbox"/> The source of the release has been stopped.<br><input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment.<br><input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.<br><input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.   |                                |
| If all the actions described above have <u>not</u> been undertaken, explain why:<br><br>   |                                |
| Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.  |                                |
| I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. |                                |
| Printed Name: <u>Christopher Ebey</u>  | Title: <u>HSE Specialist</u>   |
| Signature: <u></u>  | Date: <u>4/24/19</u>           |
| email: <u>Christopher.ebey@conocophillips.com</u>  | Telephone: <u>575.391.3165</u> |
| <b><u>OCD Only</u></b>   |                                |
| Received by: <u></u>  | Date: <u>5/7/2019</u>          |

|                |               |
|----------------|---------------|
| Incident ID    | NAB1912758567 |
| District RP    | 2RP-5398      |
| Facility ID    |               |
| Application ID |               |

## Site Assessment/Characterization

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

|   |   |
|---|---|
| What is the shallowest depth to groundwater beneath the area affected by the release?   | >55 ft (ft bgs)   |
| Did this release impact groundwater or surface water?   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 300 feet of a wetland?  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release overlying a subsurface mine?   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release overlying an unstable area such as karst geology?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| Are the lateral extents of the release within a 100-year floodplain?  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |

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

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

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- Field data
- Data table of soil contaminant concentration data
- Depth to water determination
- Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- Boring or excavation logs
- Photographs including date and GIS information
- Topographic/Aerial maps
- Laboratory data including chain of custody

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

State of New Mexico  
Oil Conservation Division

Page 4

|                |               |
|----------------|---------------|
| Incident ID    | NAB1912758567 |
| District RP    | 2RP-5398      |
| Facility ID    |               |
| Application ID |               |

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

Printed Name: Sam widmer Title: Principal Program Manager  
 Signature: *Sam Widmer* Date: May-01-2023  
DocuSigned by: 5454CA5BAD33498...  
 email: Sam.widmer@conocophillips.com Telephone: 281-206-5298

**OCD Only**

Received by: Jocelyn Harimon Date: 05/03/2023

|                |               |
|----------------|---------------|
| Incident ID    | NAB1912758567 |
| District RP    | 2RP-5398      |
| Facility ID    |               |
| Application ID |               |

## Remediation Plan

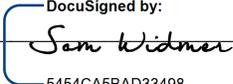
**Remediation Plan Checklist:** Each of the following items must be included in the plan.

- Detailed description of proposed remediation technique
- Scaled sitemap with GPS coordinates showing delineation points
- Estimated volume of material to be remediated
- Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

**Deferral Requests Only:** Each of the following items must be confirmed as part of any request for deferral of remediation.

- Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- Extents of contamination must be fully delineated.
- Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Sam widmer Title: Principal Program Manager  
 Signature:  Date: May-01-2023  
 email: 5454CA5BAD33498...  
sam.widmer@conocophillips.com Telephone: 281-206-5298

**OCD Only**

Received by: Jocelyn Harimon Date: 05/03/2023

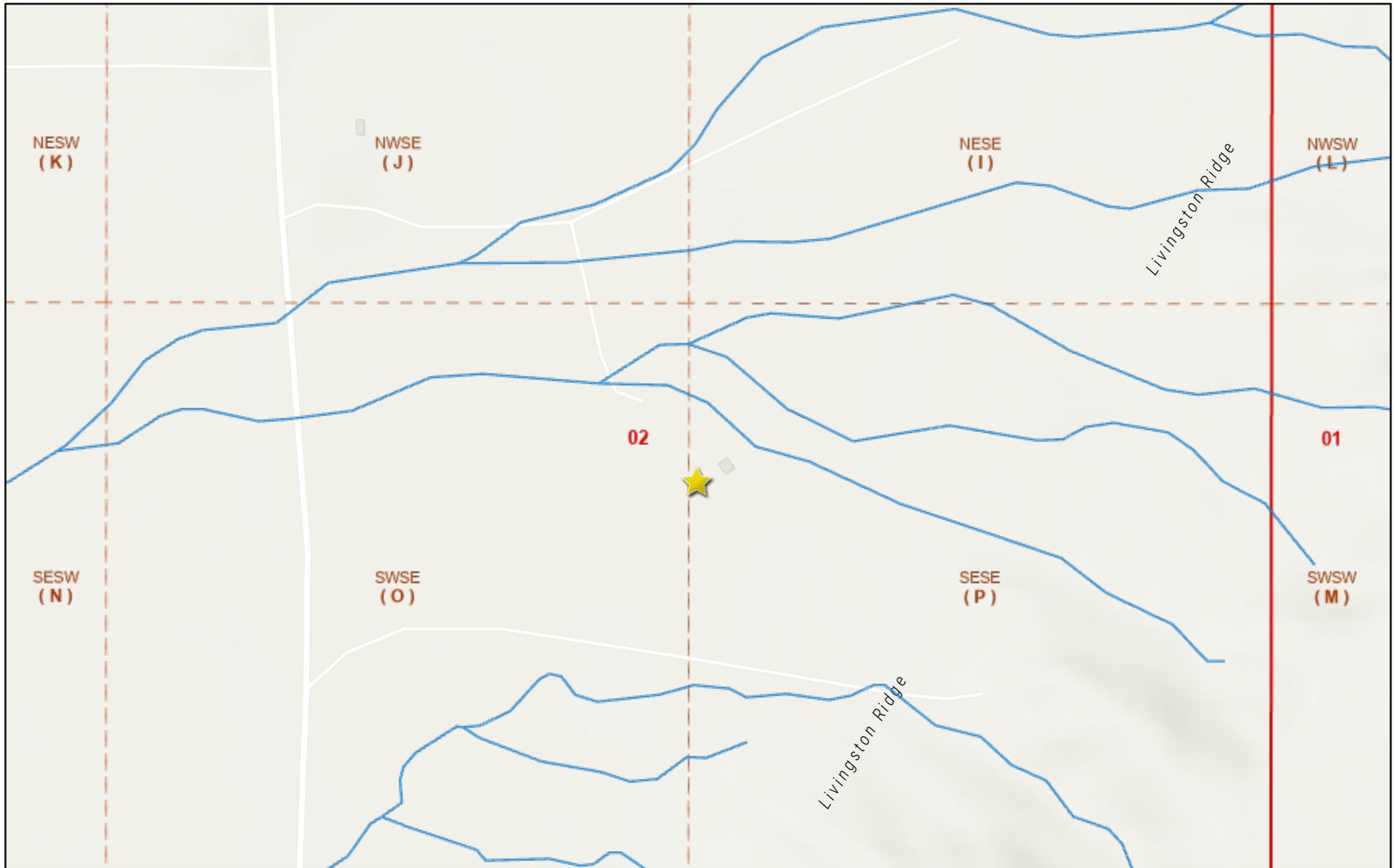
- Approved       Approved with Attached Conditions of Approval       Denied       Deferral Approved

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

# **APPENDIX B**

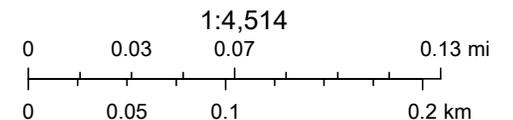
## **Site Characterization Data**

# James A Waterflood - Water Bodies



10/12/2022, 11:21:51 AM

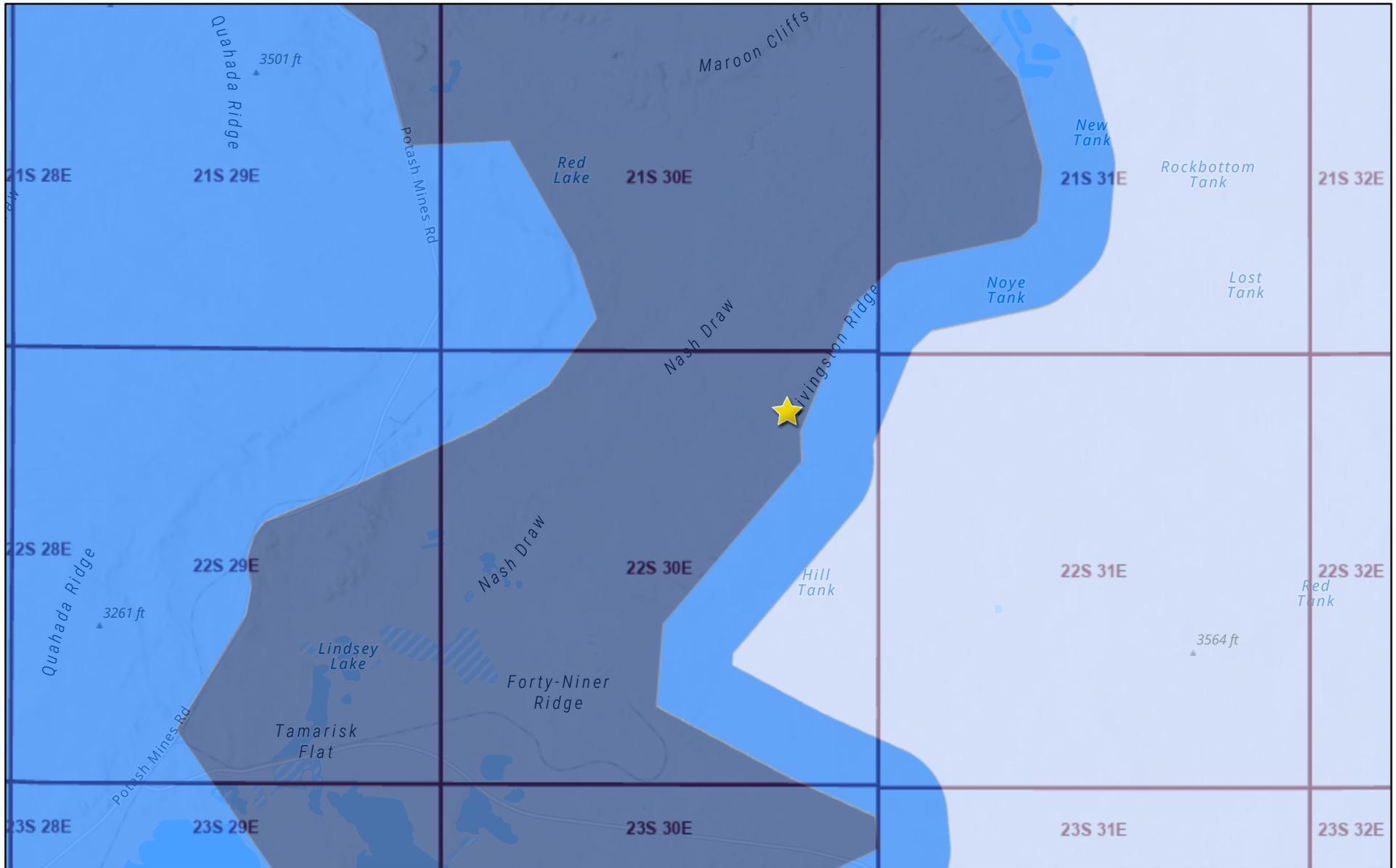
-  Override 1
-  PLSS Second Division
-  OSE Streams
-  PLSS First Division



Esri Community Maps Contributors, New Mexico State University, Texas Parks & Wildlife, © OpenStreetMap, Microsoft, CONANP, Esri, HERE,

New Mexico Oil Conservation Division

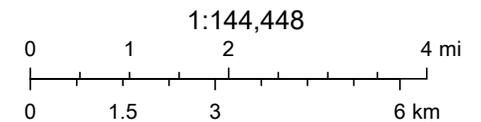
# James A Waterflood - Karst



10/12/2022, 11:31:59 AM

★ Override 1
 

|  |   |
|--|---|
| <p><b>Karst Occurrence Potential</b></p> <p><span style="display: inline-block; width: 15px; height: 15px; background-color: darkgrey; border: 1px solid black;"></span> High</p> <p><span style="display: inline-block; width: 15px; height: 15px; background-color: blue; border: 1px solid black;"></span> Medium</p> | <p><span style="display: inline-block; width: 15px; height: 15px; background-color: lightblue; border: 1px solid black;"></span> Low</p> <p><span style="display: inline-block; width: 15px; height: 15px; border: 2px solid red;"></span> PLSS Townships</p> |
|--|---|



BLM, OCD, New Mexico Tech, Esri, NASA, NGA, USGS, New Mexico State University, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin,

New Mexico Oil Conservation Division



# New Mexico Office of the State Engineer

## Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)  
(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

| POD Number                      | POD Sub-Code | basin | County | Q 64 | Q 16 | Q 4 | Sec | Tws | Rng | X      | Y        | Distance | Depth Well | Depth Water | Water Column |
|---------------------------------|--------------|-------|--------|------|------|-----|-----|-----|-----|--------|----------|----------|------------|-------------|--------------|
| <a href="#">C 04528 POD1</a>    | CUB          | ED    |        | 1    | 3    | 3   | 12  | 22S | 30E | 608886 | 3585625  | 1626     |            |             |              |
| <a href="#">C 03234 EXPLORE</a> | CUB          | ED    |        | 1    | 2    | 3   | 35  | 21S | 30E | 607695 | 3589207* | 2148     | 410        |             |              |

Average Depth to Water: --  
Minimum Depth: --  
Maximum Depth: --

**Record Count: 2**

**UTMNAD83 Radius Search (in meters):**

**Easting (X):** 608396.493

**Northing (Y):** 3587175.815

**Radius:** 2400

\*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

|               |                   |                          |                |
|---------------|-------------------|--------------------------|----------------|
| 212C-MD-02792 | <b>TETRA TECH</b> | <b>LOG OF BORING DTW</b> | Page<br>1 of 1 |
|---------------|-------------------|--------------------------|----------------|

Project Name: James A Waterflood Release

Borehole Location: GPS: 32.416966°, -103.847724°      Surface Elevation: 3198 ft

Borehole Number: DTW      Borehole Diameter (in.): 8      Date Started: 9/26/2022      Date Finished: 9/26/2022

| DEPTH (ft) | OPERATION TYPE | SAMPLE | CHLORIDE FIELD SCREENING (ppm) | VOC FIELD SCREENING (ppm) | SAMPLE RECOVERY (%) | MOISTURE CONTENT (%) | DRY DENSITY (pcf) | LIQUID LIMIT | PLASTICITY INDEX | MINUS NO. 200 (%) | GRAPHIC LOG | WATER LEVEL OBSERVATIONS   |                             | DEPTH (ft) | REMARKS |
|------------|----------------|--------|--------------------------------|---------------------------|---------------------|----------------------|-------------------|--------------|------------------|-------------------|-------------|--|-----------------------------|------------|---------|
|            |                |        |                                |                           |                     |                      |                   |              |                  |                   |             | While Drilling   | Upon Completion of Drilling |            |         |
|            |                |        |                                |                           |                     |                      |                   |              |                  |                   |             | While Drilling <u>∇</u> DRY ft    Upon Completion of Drilling <u>∇</u> DRY ft<br>Remarks:  |                             |            |         |
|            |                |        |                                |                           |                     |                      |                   |              |                  |                   |             | MATERIAL DESCRIPTION   |                             |            |         |
| 5          |                |        |                                |                           |                     |                      |                   |              |                  |                   |             | - <b>SP</b> - SILTY SAND: Light brown to brown, loose, dry, fine grained, with trace caliche nodules, no staining impact or odor | 3                           |            |         |
| 10         |                |        |                                |                           |                     |                      |                   |              |                  |                   |             | - <b>SM</b> - SAND: Brown, weakly cemented, dry, very fine grained, with trace caliche   |                             |            |         |
| 15         |                |        |                                |                           |                     |                      |                   |              |                  |                   |             |  |                             |            |         |
| 20         |                |        |                                |                           |                     |                      |                   |              |                  |                   |             | - <b>SC</b> - CLAYEY SAND: Reddish brown, moderately cemented, moist   | 19                          |            |         |
| 25         |                |        |                                |                           |                     |                      |                   |              |                  |                   |             | - <b>SM</b> - SILTY SAND: Reddish Brown, dense, weakly cemented, dry   | 23                          |            |         |
| 30         |                |        |                                |                           |                     |                      |                   |              |                  |                   |             |  |                             |            |         |
| 35         |                |        |                                |                           |                     |                      |                   |              |                  |                   |             |  |                             |            |         |
| 40         |                |        |                                |                           |                     |                      |                   |              |                  |                   |             |  |                             |            |         |
| 45         |                |        |                                |                           |                     |                      |                   |              |                  |                   |             |  |                             |            |         |
| 50         |                |        |                                |                           |                     |                      |                   |              |                  |                   |             |  |                             |            |         |
| 55         |                |        |                                |                           |                     |                      |                   |              |                  |                   |             |  |                             |            |         |

Bottom of borehole at 55.0 feet.

|  |  |   |  |   |
|--|--|---|--|---|
| <b>Sampler Types:</b><br>Split Spoon<br>Shelby<br>Bulk Sample<br>Grab Sample | Acetate Liner<br>Vane Shear<br>Discrete Sample<br>Test Pit | <b>Operation Types:</b><br>Mud Rotary<br>Continuous Flight Auger<br>Wash Rotary | Hand Auger<br>Air Rotary<br>Direct Push<br>Core Barrel | <b>Notes:</b><br>Surface elevation is based on Google Earth data. |
|--|--|---|--|---|

Logger: Colton Bickerstaff      Drilling Equipment: Air Rotary      Driller: Scarborough Drilling

# **APPENDIX C**

## **Regulatory Correspondence**

**Bratcher, Mike, EMNRD**

---

**From:** Bratcher, Mike, EMNRD  
**Sent:** Tuesday, May 7, 2019 3:50 PM  
**To:** Wright, Justin K  
**Cc:** Fejervary Morena, Gustavo A; Hamlet, Robert, EMNRD; Venegas, Victoria, EMNRD  
**Subject:** RE: CAP for James A Waterflood 2RP-5017  
**Attachments:** 20190503124725.pdf

RE: ConocoPhillips \* James A 12 aka James A Waterflood \* 2RP-5017 \* DOR: 8/24/18

Justin,

Assuming this is the remediation proposal for this release, it is **DENIED** due for the most part, for not meeting requirements of current spill rule [19.15.29]NMAC.

Here is a link to the rule: <http://164.64.110.134/parts/title19/19.015.0029.html>

Please review and resubmit including all documentation as required. Along with multiple other deficiencies, the analytical data needs to be in a table format with sample points clearly marked on a scaled site diagram. The attachments you have sent are not legible, making this type submittal unacceptable. I would suggest a third party contractor be retained to formulate your proposal.

Also, for all OCD District 2 Environmental correspondence, please address to the following District Environmental Specialists:

Rob Hamlet: [robert.hamlet@state.nm.us](mailto:robert.hamlet@state.nm.us)  
Victoria Venegas: [victoria.venegas@state.nm.us](mailto:victoria.venegas@state.nm.us)

You may continue to copy me as well.

Thank you,

Mike Bratcher  
NMOCD District 2  
811 South First Street  
Artesia, NM 88210  
575-748-1283 Ext 108

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to ground water, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, local laws and/or regulations.

---

**From:** Wright, Justin K <Justin.Wright@conocophillips.com>  
**Sent:** Friday, May 3, 2019 2:08 PM  
**To:** Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>

**Cc:** Fejervary Morena, Gustavo A <G.Fejervary@conocophillips.com>  
**Subject:** [EXT] FW: CAP for James A Waterflood 2RP-5017

**From:** Wright, Justin K <[Justin.Wright@conocophillips.com](mailto:Justin.Wright@conocophillips.com)>  
**Sent:** Friday, May 3, 2019 12:50 PM  
**To:** Wright, Justin K <[Justin.Wright@conocophillips.com](mailto:Justin.Wright@conocophillips.com)>  
**Subject:**

# **APPENDIX D**

## **Photographic Documentation**



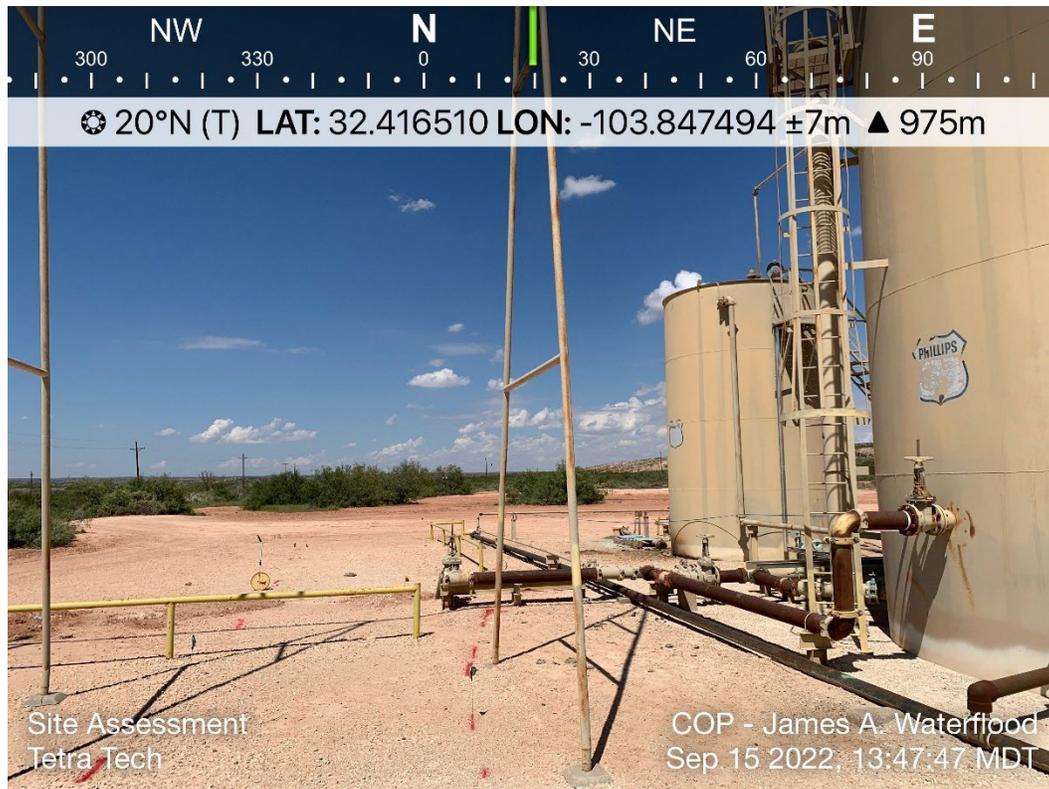
|  |             |  |           |
|--|-------------|--|-----------|
| TETRA TECH, INC.<br>PROJECT NO.<br>212C-MD-02792 | DESCRIPTION | Site Signage. James A Waterflood Site.   | 1         |
|  | SITE NAME   | ConocoPhillips James Waterflood Releases | 9/15/2022 |



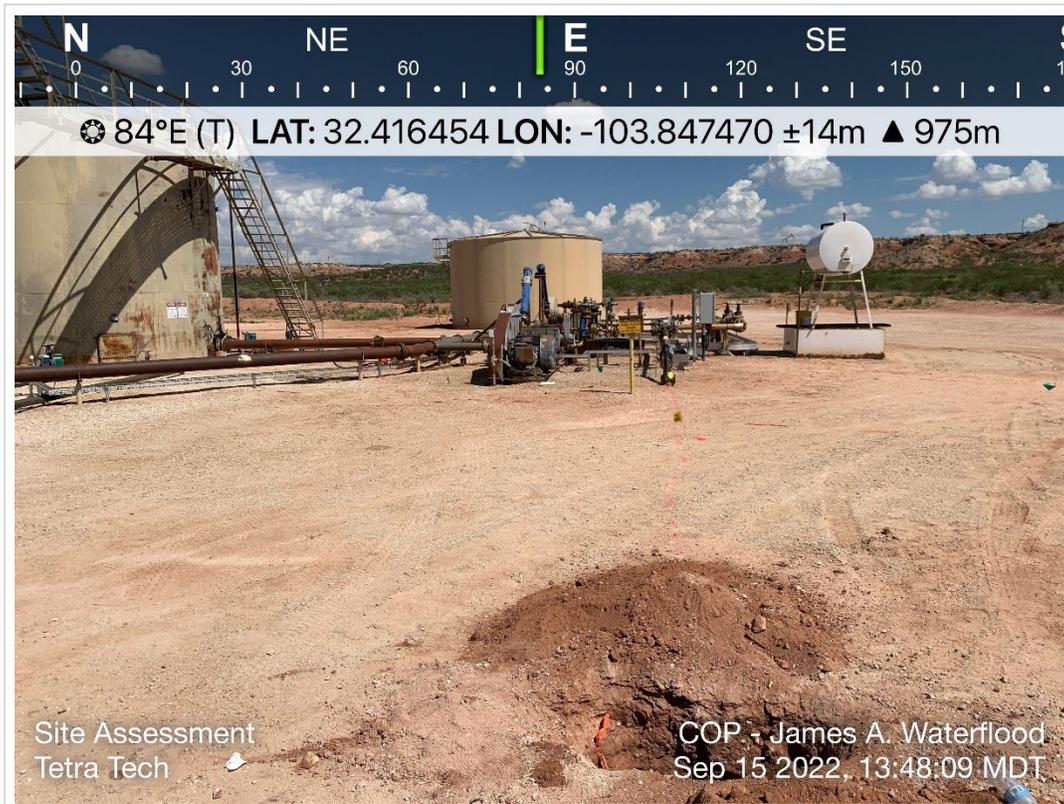
|  |             |   |           |
|--|-------------|---|-----------|
| TETRA TECH, INC.<br>PROJECT NO.<br>212C-MD-02792 | DESCRIPTION | View east southeast. View of site from lease road entrance. | 2         |
|  | SITE NAME   | ConocoPhillips James Waterflood Releases                    | 9/15/2022 |



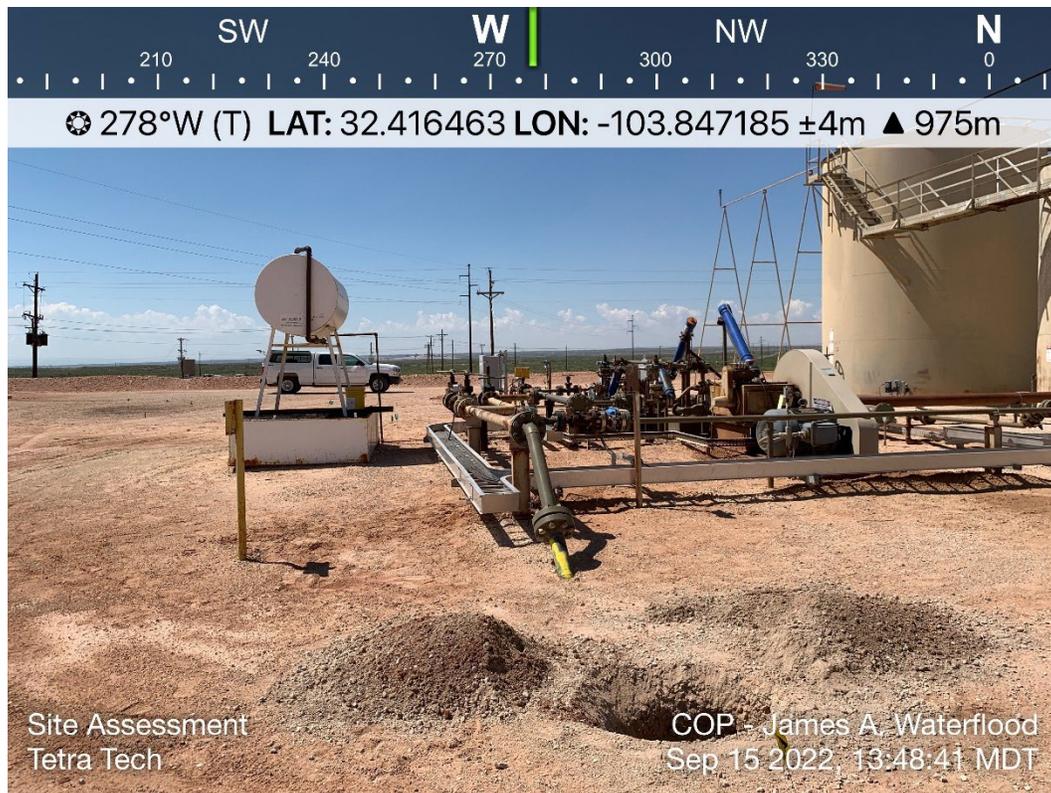
|  |             |   |           |
|--|-------------|---|-----------|
| TETRA TECH, INC.<br>PROJECT NO.<br>212C-MD-02792 | DESCRIPTION | View east. View of tank batteries and injection pumps.<br>Pothole for utility verification. | 3         |
|  | SITE NAME   | ConocoPhillips James Waterflood Releases  | 9/15/2022 |



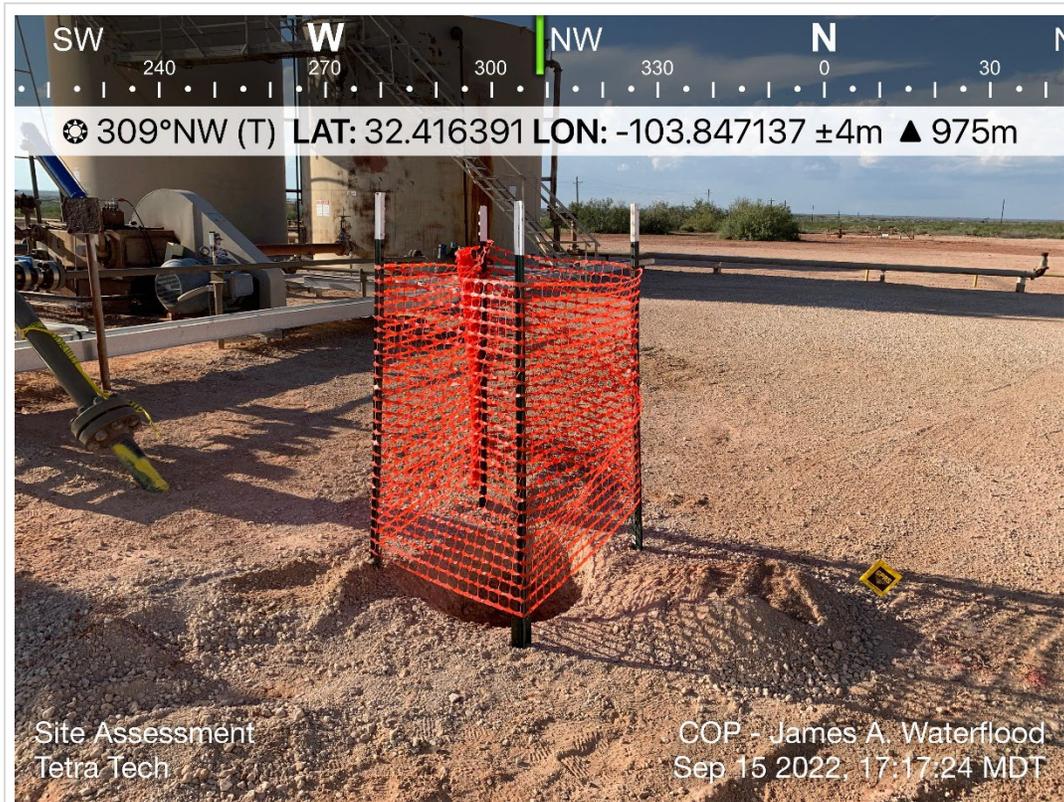
|  |             |  |           |
|--|-------------|--|-----------|
| TETRA TECH, INC.<br>PROJECT NO.<br>212C-MD-02792 | DESCRIPTION | View north northeast. View of tank batteries. Subsurface electrical lines. | 4         |
|  | SITE NAME   | ConocoPhillips James Waterflood Releases                                   | 9/15/2022 |



|  |             |  |           |
|--|-------------|--|-----------|
| TETRA TECH, INC.<br>PROJECT NO.<br>212C-MD-02792 | DESCRIPTION | View east. Pothole for utility verification. View of injection pump. Approximate release point of 2P-5398. Subsurface utilities. | 5         |
|  | SITE NAME   | ConocoPhillips James Waterflood Releases   | 9/15/2022 |



|  |             |   |           |
|--|-------------|---|-----------|
| TETRA TECH, INC.<br>PROJECT NO.<br>212C-MD-02792 | DESCRIPTION | View west. Pothole for utility verification View of injection pump. Approximate release point for 2RP-5017. | 6         |
|  | SITE NAME   | ConocoPhillips James Waterflood Releases  | 9/15/2022 |



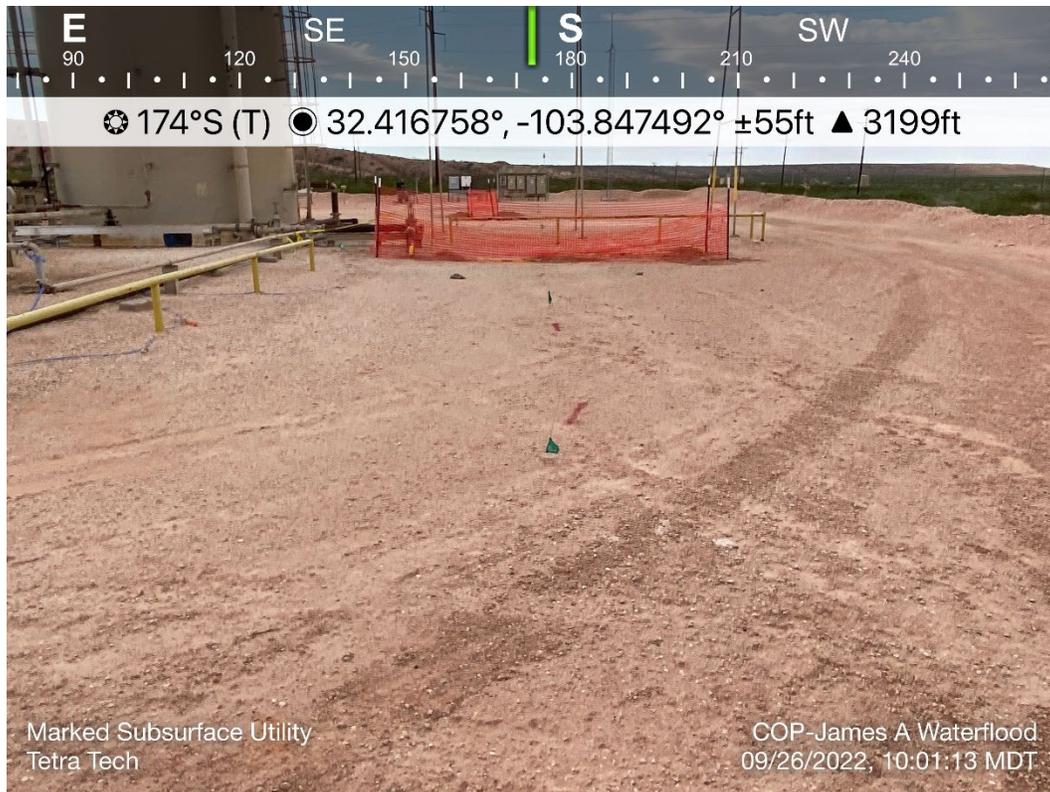
|  |             |  |           |
|--|-------------|--|-----------|
| TETRA TECH, INC.<br>PROJECT NO.<br>212C-MD-02792 | DESCRIPTION | View northwest. Barricaded pothole for utility verification. Approximate release point for 2RP-5017. | 7         |
|  | SITE NAME   | ConocoPhillips James Waterflood Releases   | 9/15/2022 |



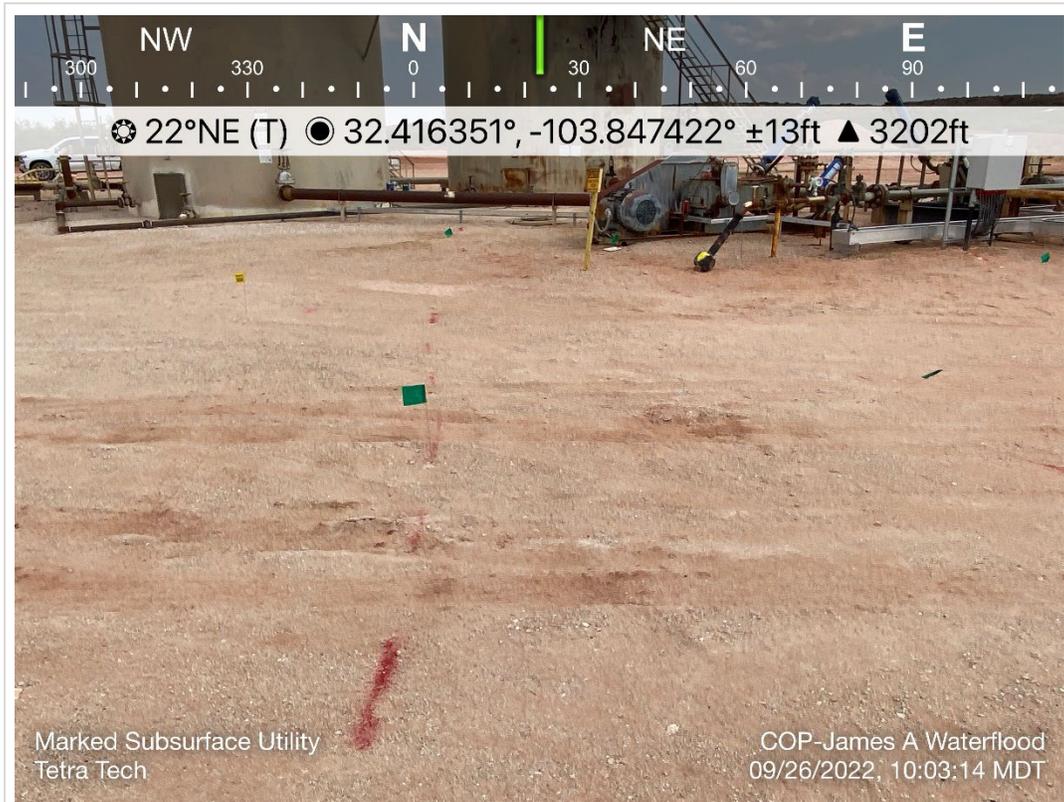
|  |             |   |           |
|--|-------------|---|-----------|
| TETRA TECH, INC.<br>PROJECT NO.<br>212C-MD-02792 | DESCRIPTION | View east southeast. View of tank battery. Subsurface utilities. Barricaded pothole for utility verification. | 8         |
|  | SITE NAME   | ConocoPhillips James Waterflood Releases  | 9/15/2022 |



|  |             |  |           |
|--|-------------|--|-----------|
| TETRA TECH, INC.<br>PROJECT NO.<br>212C-MD-02792 | DESCRIPTION | View northwest east. Approximate release point for 2RP-5399. | 9         |
|  | SITE NAME   | ConocoPhillips James Waterflood Releases                     | 9/15/2022 |



|  |             |  |           |
|--|-------------|--|-----------|
| TETRA TECH, INC.<br>PROJECT NO.<br>212C-MD-02792 | DESCRIPTION | View south. Subsurface utility lines. Barricaded pothole for utility verification. | 10        |
|  | SITE NAME   | ConocoPhillips James Waterflood Releases   | 9/26/2022 |



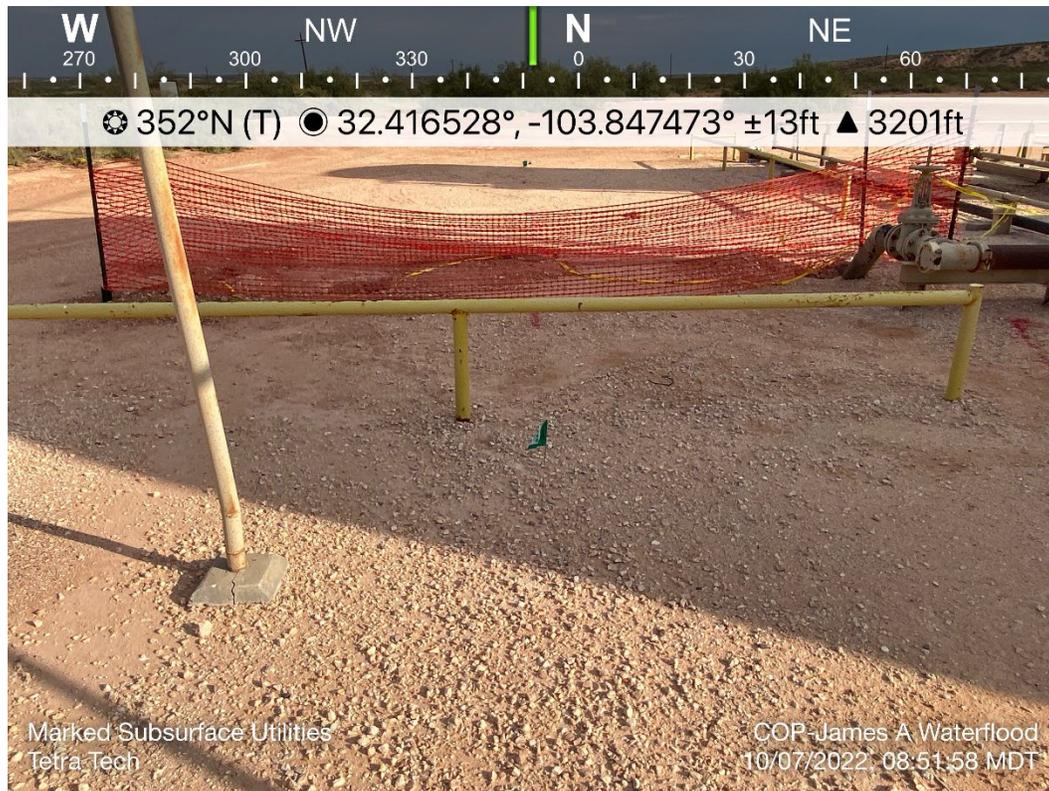
|  |             |   |           |
|--|-------------|---|-----------|
| TETRA TECH, INC.<br>PROJECT NO.<br>212C-MD-02792 | DESCRIPTION | View north northeast. Subsurface utility lines. View of Tank Batteries. | 11        |
|  | SITE NAME   | ConocoPhillips James Waterflood Releases                                | 9/26/2022 |



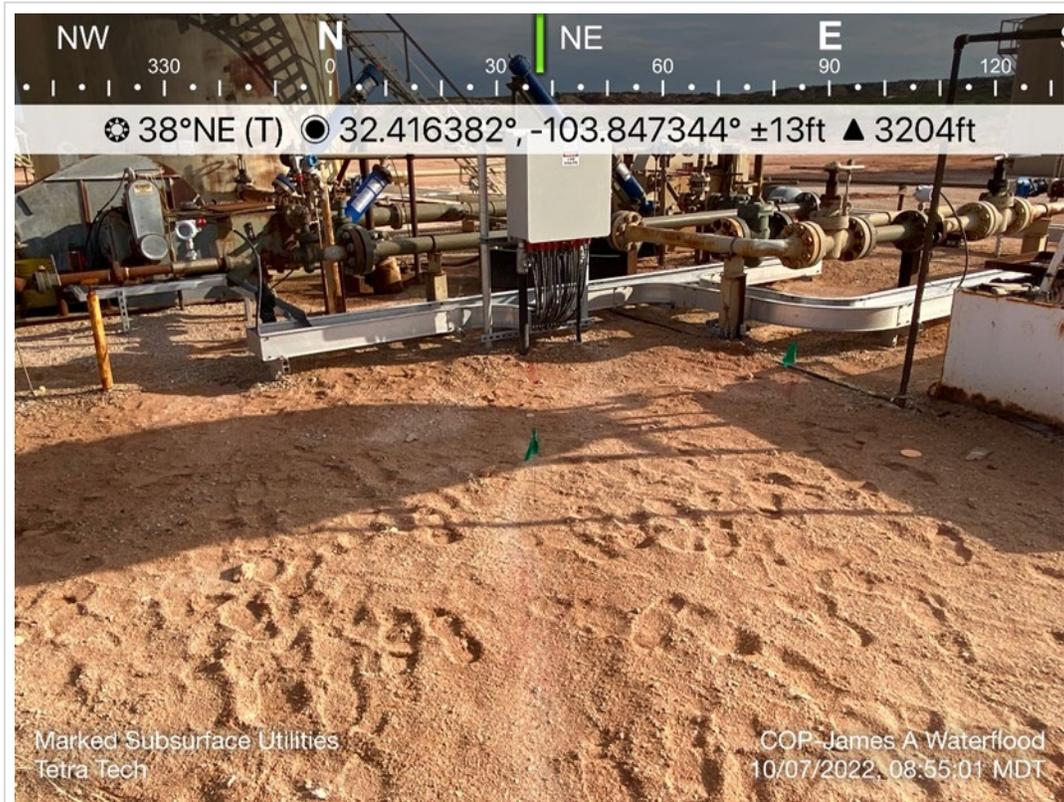
|  |             |  |           |
|--|-------------|--|-----------|
| TETRA TECH, INC.<br>PROJECT NO.<br>212C-MD-02792 | DESCRIPTION | View northwest. View of injection pump. Approximate release point for 2RP-5017 and 2RP-5398. | 12        |
|  | SITE NAME   | ConocoPhillips James Waterflood Releases   | 9/26/2022 |



|  |             |  |           |
|--|-------------|--|-----------|
| TETRA TECH, INC.<br>PROJECT NO.<br>212C-MD-02792 | DESCRIPTION | View east southeast. Pothole with view of subsurface line. | 13        |
|  | SITE NAME   | ConocoPhillips James Waterflood Releases                   | 9/26/2022 |



|  |             |  |           |
|--|-------------|--|-----------|
| TETRA TECH, INC.<br>PROJECT NO.<br>212C-MD-02792 | DESCRIPTION | View north. Subsurface utilities.        | 14        |
|  | SITE NAME   | ConocoPhillips James Waterflood Releases | 10/7/2022 |



|  |             |  |           |
|--|-------------|--|-----------|
| TETRA TECH, INC.<br>PROJECT NO.<br>212C-MD-02792 | DESCRIPTION | View northeast. View of Injection pump. Approximate release areas. | 15        |
|  | SITE NAME   | ConocoPhillips James Waterflood Releases                           | 10/7/2022 |



|  |             |  |            |
|--|-------------|--|------------|
| TETRA TECH, INC.<br>PROJECT NO.<br>212C-MD-02792 | DESCRIPTION | View north. Location of DTW.             | 16         |
|  | SITE NAME   | ConocoPhillips James Waterflood Releases | 10/13/2022 |

# **APPENDIX E**

## **Laboratory Analytical Data**



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

---

September 28, 2022

CHRISTIAN LLULL

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: JAMES A WATERFLOOD

Enclosed are the results of analyses for samples received by the laboratory on 09/26/22 15:11.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

|                  |                              |
|------------------|------------------------------|
| Method EPA 552.2 | Haloacetic Acids (HAA-5)     |
| Method EPA 524.2 | Total Trihalomethanes (TTHM) |
| Method EPA 524.4 | Regulated VOCs (V1, V2, V3)  |

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 1 (0-1') (H224460-01)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.09 | 104        | 2.00          | 2.55 |           |
| Toluene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.02 | 101        | 2.00          | 3.24 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/27/2022 | ND              | 1.95 | 97.7       | 2.00          | 2.84 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/27/2022 | ND              | 5.98 | 99.6       | 6.00          | 1.82 |           |
| Total BTEX     | <0.300 | 0.300           | 09/27/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 94.8 % 69.9-140

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 192    | 16.0            | 09/27/2022 | ND              | 416 | 104        | 400           | 3.77 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: CK |     |            |               |      |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 218 | 109        | 200           | 6.55 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 216 | 108        | 200           | 6.75 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 89.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 95.1 % 46.3-178

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 1 (2'-3') (H224460-02)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |  |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.09 | 104        | 2.00          | 2.55 |           |  |
| Toluene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.02 | 101        | 2.00          | 3.24 |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 09/27/2022 | ND              | 1.95 | 97.7       | 2.00          | 2.84 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 09/27/2022 | ND              | 5.98 | 99.6       | 6.00          | 1.82 |           |  |
| Total BTEX     | <0.300 | 0.300           | 09/27/2022 | ND              |      |            |               |      |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 93.4 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 800    | 16.0            | 09/27/2022 | ND              | 416 | 104        | 400           | 0.00 |           |  |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: CK |     |            |               |      |           |  |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 218 | 109        | 200           | 6.55 |           |  |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 216 | 108        | 200           | 6.75 |           |  |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |      |           |  |

Surrogate: 1-Chlorooctane 114 % 45.3-161

Surrogate: 1-Chlorooctadecane 121 % 46.3-178

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 1 (3'-4') (H224460-03)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.09 | 104        | 2.00          | 2.55 |           |
| Toluene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.02 | 101        | 2.00          | 3.24 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/27/2022 | ND              | 1.95 | 97.7       | 2.00          | 2.84 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/27/2022 | ND              | 5.98 | 99.6       | 6.00          | 1.82 |           |
| Total BTEX     | <0.300 | 0.300           | 09/27/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 92.2 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 1250   | 16.0            | 09/27/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: CK |     |            |               |      |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 218 | 109        | 200           | 6.55 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 216 | 108        | 200           | 6.75 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 101 % 45.3-161

Surrogate: 1-Chlorooctadecane 108 % 46.3-178

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 1 (4'-5') (H224460-04)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.09 | 104        | 2.00          | 2.55 |           |
| Toluene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.02 | 101        | 2.00          | 3.24 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/27/2022 | ND              | 1.95 | 97.7       | 2.00          | 2.84 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/27/2022 | ND              | 5.98 | 99.6       | 6.00          | 1.82 |           |
| Total BTEX     | <0.300 | 0.300           | 09/27/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 94.1 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 1920   | 16.0            | 09/27/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: CK |     |            |               |      |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 218 | 109        | 200           | 6.55 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 216 | 108        | 200           | 6.75 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 105 % 45.3-161

Surrogate: 1-Chlorooctadecane 112 % 46.3-178

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 1 (6'-7') (H224460-05)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |  |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.09 | 104        | 2.00          | 2.55 |           |  |
| Toluene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.02 | 101        | 2.00          | 3.24 |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 09/27/2022 | ND              | 1.95 | 97.7       | 2.00          | 2.84 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 09/27/2022 | ND              | 5.98 | 99.6       | 6.00          | 1.82 |           |  |
| Total BTEX     | <0.300 | 0.300           | 09/27/2022 | ND              |      |            |               |      |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 93.8 % 69.9-140

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 1600   | 16.0            | 09/27/2022 | ND              | 416 | 104        | 400           | 0.00 |           |  |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |  |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 211 | 105        | 200           | 3.88 |           |  |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 200 | 100        | 200           | 4.46 |           |  |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |      |           |  |

Surrogate: 1-Chlorooctane 107 % 45.3-161

Surrogate: 1-Chlorooctadecane 128 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 1 (8'-9') (H224460-06)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.09 | 104        | 2.00          | 2.55 |           |
| Toluene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.02 | 101        | 2.00          | 3.24 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/27/2022 | ND              | 1.95 | 97.7       | 2.00          | 2.84 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/27/2022 | ND              | 5.98 | 99.6       | 6.00          | 1.82 |           |
| Total BTEX     | <0.300 | 0.300           | 09/27/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 93.3 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 224    | 16.0            | 09/27/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 211 | 105        | 200           | 3.88 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 200 | 100        | 200           | 4.46 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 114 % 45.3-161

Surrogate: 1-Chlorooctadecane 136 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 1 (14'-15') (H224460-07)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.09 | 104        | 2.00          | 2.55 |           |
| Toluene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.02 | 101        | 2.00          | 3.24 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/27/2022 | ND              | 1.95 | 97.7       | 2.00          | 2.84 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/27/2022 | ND              | 5.98 | 99.6       | 6.00          | 1.82 |           |
| Total BTEX     | <0.300 | 0.300           | 09/27/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 93.7 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 288    | 16.0            | 09/27/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 211 | 105        | 200           | 3.88 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 200 | 100        | 200           | 4.46 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 96.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 115 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 1 (19'-20') (H224460-08)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.09 | 104        | 2.00          | 2.55 |           |
| Toluene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.02 | 101        | 2.00          | 3.24 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/27/2022 | ND              | 1.95 | 97.7       | 2.00          | 2.84 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/27/2022 | ND              | 5.98 | 99.6       | 6.00          | 1.82 |           |
| Total BTEX     | <0.300 | 0.300           | 09/27/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 93.8 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 800    | 16.0            | 09/27/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 211 | 105        | 200           | 3.88 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 200 | 100        | 200           | 4.46 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 103 % 45.3-161

Surrogate: 1-Chlorooctadecane 122 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 2 (0-1') (H224460-09)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.09 | 104        | 2.00          | 2.55 |           |
| Toluene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.02 | 101        | 2.00          | 3.24 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/27/2022 | ND              | 1.95 | 97.7       | 2.00          | 2.84 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/27/2022 | ND              | 5.98 | 99.6       | 6.00          | 1.82 |           |
| Total BTEX     | <0.300 | 0.300           | 09/27/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 93.2 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 288    | 16.0            | 09/27/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 211 | 105        | 200           | 3.88 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 200 | 100        | 200           | 4.46 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 94.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 111 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 2 (2'-3') (H224460-10)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.09 | 104        | 2.00          | 2.55 |           |
| Toluene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.02 | 101        | 2.00          | 3.24 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/27/2022 | ND              | 1.95 | 97.7       | 2.00          | 2.84 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/27/2022 | ND              | 5.98 | 99.6       | 6.00          | 1.82 |           |
| Total BTEX     | <0.300 | 0.300           | 09/27/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 92.4 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 224    | 16.0            | 09/27/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 211 | 105        | 200           | 3.88 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 200 | 100        | 200           | 4.46 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 104 % 45.3-161

Surrogate: 1-Chlorooctadecane 122 % 46.3-178

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 2 (3'-4') (H224460-11)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.09 | 104        | 2.00          | 2.55 |           |
| Toluene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.02 | 101        | 2.00          | 3.24 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/27/2022 | ND              | 1.95 | 97.7       | 2.00          | 2.84 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/27/2022 | ND              | 5.98 | 99.6       | 6.00          | 1.82 |           |
| Total BTEX     | <0.300 | 0.300           | 09/27/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 93.2 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 256    | 16.0            | 09/27/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 211 | 105        | 200           | 3.88 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 200 | 100        | 200           | 4.46 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 101 % 45.3-161

Surrogate: 1-Chlorooctadecane 120 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 2 (4'-5') (H224460-12)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.09 | 104        | 2.00          | 2.55 |           |
| Toluene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.02 | 101        | 2.00          | 3.24 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/27/2022 | ND              | 1.95 | 97.7       | 2.00          | 2.84 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/27/2022 | ND              | 5.98 | 99.6       | 6.00          | 1.82 |           |
| Total BTEX     | <0.300 | 0.300           | 09/27/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 92.7 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 176    | 16.0            | 09/27/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 211 | 105        | 200           | 3.88 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 200 | 100        | 200           | 4.46 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 106 % 45.3-161

Surrogate: 1-Chlorooctadecane 127 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 2 (6'-7') (H224460-13)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.09 | 104        | 2.00          | 2.55 |           |
| Toluene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.02 | 101        | 2.00          | 3.24 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/27/2022 | ND              | 1.95 | 97.7       | 2.00          | 2.84 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/27/2022 | ND              | 5.98 | 99.6       | 6.00          | 1.82 |           |
| Total BTEX     | <0.300 | 0.300           | 09/27/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 92.7 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 272    | 16.0            | 09/27/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 211 | 105        | 200           | 3.88 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 200 | 100        | 200           | 4.46 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 105 % 45.3-161

Surrogate: 1-Chlorooctadecane 124 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 2 (8'-9') (H224460-14)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.09 | 104        | 2.00          | 2.55 |           |
| Toluene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.02 | 101        | 2.00          | 3.24 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/27/2022 | ND              | 1.95 | 97.7       | 2.00          | 2.84 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/27/2022 | ND              | 5.98 | 99.6       | 6.00          | 1.82 |           |
| Total BTEX     | <0.300 | 0.300           | 09/27/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 93.9 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 288    | 16.0            | 09/27/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 211 | 105        | 200           | 3.88 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 200 | 100        | 200           | 4.46 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 100 % 45.3-161

Surrogate: 1-Chlorooctadecane 117 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 2 (14'-15') (H224460-15)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |       |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.08 | 104        | 2.00          | 0.255 |           |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.02 | 101        | 2.00          | 0.634 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.94 | 96.9       | 2.00          | 0.859 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.97 | 99.6       | 6.00          | 1.85  |           |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 93.6 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 864    | 16.0            | 09/27/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 211 | 105        | 200           | 3.88 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 200 | 100        | 200           | 4.46 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 98.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 115 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 2 (19'-20') (H224460-16)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |       |           |  |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|-------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD   | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.08 | 104        | 2.00          | 0.255 |           |  |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.02 | 101        | 2.00          | 0.634 |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.94 | 96.9       | 2.00          | 0.859 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.97 | 99.6       | 6.00          | 1.85  |           |  |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |       |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 93.5 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 1800   | 16.0            | 09/27/2022 | ND              | 416 | 104        | 400           | 0.00 |           |  |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |  |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 211 | 105        | 200           | 3.88 |           |  |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 200 | 100        | 200           | 4.46 |           |  |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |      |           |  |

Surrogate: 1-Chlorooctane 109 % 45.3-161

Surrogate: 1-Chlorooctadecane 127 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 3 (0-1') (H224460-17)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |       |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.08 | 104        | 2.00          | 0.255 |           |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.02 | 101        | 2.00          | 0.634 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.94 | 96.9       | 2.00          | 0.859 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.97 | 99.6       | 6.00          | 1.85  |           |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 91.9 % 69.9-140

| Chloride, SM4500CI-B |             | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|-------------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result      | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| <b>Chloride</b>      | <b>5120</b> | 16.0            | 09/27/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M                  |             | mg/kg           |            | Analyzed By: MS |     |            |               |      |           | S-04 |
|----------------------------|-------------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|------|
| Analyte                    | Result      | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |      |
| GRO C6-C10*                | <10.0       | 10.0            | 09/27/2022 | ND              | 211 | 105        | 200           | 3.88 |           |      |
| <b>DRO &gt;C10-C28*</b>    | <b>1150</b> | 10.0            | 09/27/2022 | ND              | 200 | 100        | 200           | 4.46 |           |      |
| <b>EXT DRO &gt;C28-C36</b> | <b>248</b>  | 10.0            | 09/27/2022 | ND              |     |            |               |      |           |      |

Surrogate: 1-Chlorooctane 96.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 204 % 46.3-178

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 3 (2'-3') (H224460-18)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |       |           |  |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|-------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD   | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.08 | 104        | 2.00          | 0.255 |           |  |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.02 | 101        | 2.00          | 0.634 |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.94 | 96.9       | 2.00          | 0.859 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.97 | 99.6       | 6.00          | 1.85  |           |  |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |       |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 92.9 % 69.9-140

| Chloride, SM4500CI-B |             | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |  |
|----------------------|-------------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result      | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| <b>Chloride</b>      | <b>2880</b> | 16.0            | 09/27/2022 | ND              | 416 | 104        | 400           | 0.00 |           |  |

| TPH 8015M                  |             | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |  |
|----------------------------|-------------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte                    | Result      | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| GRO C6-C10*                | <10.0       | 10.0            | 09/27/2022 | ND              | 211 | 105        | 200           | 3.88 |           |  |
| <b>DRO &gt;C10-C28*</b>    | <b>37.9</b> | 10.0            | 09/27/2022 | ND              | 200 | 100        | 200           | 4.46 |           |  |
| <b>EXT DRO &gt;C28-C36</b> | <b>24.0</b> | 10.0            | 09/27/2022 | ND              |     |            |               |      |           |  |

Surrogate: 1-Chlorooctane 97.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 116 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 3 (4'-5') (H224460-19)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |       |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.08 | 104        | 2.00          | 0.255 |           |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.02 | 101        | 2.00          | 0.634 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.94 | 96.9       | 2.00          | 0.859 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.97 | 99.6       | 6.00          | 1.85  |           |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 93.5 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 1360   | 16.0            | 09/27/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 211 | 105        | 200           | 3.88 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 200 | 100        | 200           | 4.46 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 101 % 45.3-161

Surrogate: 1-Chlorooctadecane 119 % 46.3-178

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PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 3 (6'-7') (H224460-20)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |       |           |  |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|-------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD   | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.08 | 104        | 2.00          | 0.255 |           |  |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.02 | 101        | 2.00          | 0.634 |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.94 | 96.9       | 2.00          | 0.859 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.97 | 99.6       | 6.00          | 1.85  |           |  |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |       |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 93.5 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 1780   | 16.0            | 09/27/2022 | ND              | 416 | 104        | 400           | 0.00 |           |  |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |  |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 211 | 105        | 200           | 3.88 |           |  |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 200 | 100        | 200           | 4.46 |           |  |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |      |           |  |

Surrogate: 1-Chlorooctane 100 % 45.3-161

Surrogate: 1-Chlorooctadecane 117 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 3 (8'-9') (H224460-21)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |       |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.08 | 104        | 2.00          | 0.255 |           |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.02 | 101        | 2.00          | 0.634 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.94 | 96.9       | 2.00          | 0.859 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.97 | 99.6       | 6.00          | 1.85  |           |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 94.5 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 1340   | 16.0            | 09/27/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 211 | 105        | 200           | 3.88 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 200 | 100        | 200           | 4.46 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 93.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 109 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 3 (14'-15') (H224460-22)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |       |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.08 | 104        | 2.00          | 0.255 |           |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.02 | 101        | 2.00          | 0.634 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.94 | 96.9       | 2.00          | 0.859 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.97 | 99.6       | 6.00          | 1.85  |           |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 94.6 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 1420   | 16.0            | 09/28/2022 | ND              | 432 | 108        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 211 | 105        | 200           | 3.88 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 200 | 100        | 200           | 4.46 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 98.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 124 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 3 (19'-20') (H224460-23)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |       |           |  |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|-------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD   | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.08 | 104        | 2.00          | 0.255 |           |  |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.02 | 101        | 2.00          | 0.634 |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.94 | 96.9       | 2.00          | 0.859 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.97 | 99.6       | 6.00          | 1.85  |           |  |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |       |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 93.9 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 1310   | 16.0            | 09/28/2022 | ND              | 432 | 108        | 400           | 0.00 |           |  |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |  |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 211 | 105        | 200           | 3.88 |           |  |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 200 | 100        | 200           | 4.46 |           |  |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |      |           |  |

Surrogate: 1-Chlorooctane 95.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 111 % 46.3-178

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 4 (0-1') (H224460-24)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |       |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.08 | 104        | 2.00          | 0.255 |           |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.02 | 101        | 2.00          | 0.634 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.94 | 96.9       | 2.00          | 0.859 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.97 | 99.6       | 6.00          | 1.85  |           |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 94.8 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 9730   | 16.0            | 09/28/2022 | ND              | 432 | 108        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 211 | 105        | 200           | 3.88 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 200 | 100        | 200           | 4.46 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 113 % 45.3-161

Surrogate: 1-Chlorooctadecane 136 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 4 (2'-3') (H224460-25)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |       |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.08 | 104        | 2.00          | 0.255 |           |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.02 | 101        | 2.00          | 0.634 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.94 | 96.9       | 2.00          | 0.859 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.97 | 99.6       | 6.00          | 1.85  |           |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 95.1 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 2800   | 16.0            | 09/28/2022 | ND              | 432 | 108        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 230 | 115        | 200           | 1.58  |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 239 | 120        | 200           | 0.398 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 90.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 104 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 4 (4'-5') (H224460-26)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |       |           |  |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|-------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD   | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.08 | 104        | 2.00          | 0.255 |           |  |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.02 | 101        | 2.00          | 0.634 |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.94 | 96.9       | 2.00          | 0.859 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.97 | 99.6       | 6.00          | 1.85  |           |  |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |       |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 93.7 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 3000   | 16.0            | 09/28/2022 | ND              | 432 | 108        | 400           | 0.00 |           |  |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |  |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|--|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |  |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 230 | 115        | 200           | 1.58  |           |  |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 239 | 120        | 200           | 0.398 |           |  |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |       |           |  |

Surrogate: 1-Chlorooctane 92.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 105 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 4 (6'-7') (H224460-27)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |       |           |  |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|-------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD   | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.08 | 104        | 2.00          | 0.255 |           |  |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.02 | 101        | 2.00          | 0.634 |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.94 | 96.9       | 2.00          | 0.859 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.97 | 99.6       | 6.00          | 1.85  |           |  |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |       |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 94.1 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 3080   | 16.0            | 09/28/2022 | ND              | 432 | 108        | 400           | 0.00 |           |  |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |  |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|--|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |  |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 230 | 115        | 200           | 1.58  |           |  |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 239 | 120        | 200           | 0.398 |           |  |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |       |           |  |

Surrogate: 1-Chlorooctane 94.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 105 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 4 (8'-9') (H224460-28)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |       |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.08 | 104        | 2.00          | 0.255 |           |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.02 | 101        | 2.00          | 0.634 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.94 | 96.9       | 2.00          | 0.859 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.97 | 99.6       | 6.00          | 1.85  |           |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 93.7 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 2800   | 16.0            | 09/28/2022 | ND              | 432 | 108        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 230 | 115        | 200           | 1.58  |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 239 | 120        | 200           | 0.398 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 100 % 45.3-161

Surrogate: 1-Chlorooctadecane 115 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 4 (14'-15') (H224460-29)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |       |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.08 | 104        | 2.00          | 0.255 |           |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.02 | 101        | 2.00          | 0.634 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.94 | 96.9       | 2.00          | 0.859 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.97 | 99.6       | 6.00          | 1.85  |           |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 92.3 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 800    | 16.0            | 09/28/2022 | ND              | 432 | 108        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 230 | 115        | 200           | 1.58  |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 239 | 120        | 200           | 0.398 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 97.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 110 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 4 (19'-20') (H224460-30)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |       |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.08 | 104        | 2.00          | 0.255 |           |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.02 | 101        | 2.00          | 0.634 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.94 | 96.9       | 2.00          | 0.859 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.97 | 99.6       | 6.00          | 1.85  |           |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 94.4 % 69.9-140

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 352    | 16.0            | 09/28/2022 | ND              | 432 | 108        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 230 | 115        | 200           | 1.58  |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 239 | 120        | 200           | 0.398 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 95.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 108 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 5 (0-1') (H224460-31)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |       |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.08 | 104        | 2.00          | 0.255 |           |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.02 | 101        | 2.00          | 0.634 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.94 | 96.9       | 2.00          | 0.859 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.97 | 99.6       | 6.00          | 1.85  |           |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 94.1 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 1920   | 16.0            | 09/28/2022 | ND              | 432 | 108        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 230 | 115        | 200           | 1.58  |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 239 | 120        | 200           | 0.398 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 87.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 97.3 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 5 (2'-3') (H224460-32)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |       |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.08 | 104        | 2.00          | 0.255 |           |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.02 | 101        | 2.00          | 0.634 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.94 | 96.9       | 2.00          | 0.859 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.97 | 99.6       | 6.00          | 1.85  |           |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 94.4 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 960    | 16.0            | 09/28/2022 | ND              | 432 | 108        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 230 | 115        | 200           | 1.58  |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 239 | 120        | 200           | 0.398 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 83.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 94.7 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 5 (3'-4') (H224460-33)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |       |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.08 | 104        | 2.00          | 0.255 |           |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.02 | 101        | 2.00          | 0.634 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.94 | 96.9       | 2.00          | 0.859 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.97 | 99.6       | 6.00          | 1.85  |           |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 94.5 % 69.9-140

| Chloride, SM4500CI-B |             | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|-------------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result      | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| <b>Chloride</b>      | <b>1150</b> | 16.0            | 09/28/2022 | ND              | 432 | 108        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 230 | 115        | 200           | 1.58  |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 239 | 120        | 200           | 0.398 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 90.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 100 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 5 (4'-5') (H224460-34)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |       |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.08 | 104        | 2.00          | 0.255 |           |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.02 | 101        | 2.00          | 0.634 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.94 | 96.9       | 2.00          | 0.859 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.97 | 99.6       | 6.00          | 1.85  |           |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 93.9 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 1060   | 16.0            | 09/28/2022 | ND              | 432 | 108        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 230 | 115        | 200           | 1.58  |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 239 | 120        | 200           | 0.398 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 78.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 90.2 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 5 (6'-7') (H224460-35)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 1.84 | 92.0       | 2.00          | 9.06 |           |
| Toluene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.01 | 101        | 2.00          | 10.1 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/27/2022 | ND              | 1.91 | 95.3       | 2.00          | 8.05 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/27/2022 | ND              | 5.70 | 95.1       | 6.00          | 9.78 |           |
| Total BTEX     | <0.300 | 0.300           | 09/27/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 1520   | 16.0            | 09/28/2022 | ND              | 432 | 108        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 230 | 115        | 200           | 1.58  |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 239 | 120        | 200           | 0.398 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 86.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 98.8 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 5 (8'-9') (H224460-36)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 1.84 | 92.0       | 2.00          | 9.06 |           |
| Toluene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.01 | 101        | 2.00          | 10.1 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/27/2022 | ND              | 1.91 | 95.3       | 2.00          | 8.05 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/27/2022 | ND              | 5.70 | 95.1       | 6.00          | 9.78 |           |
| Total BTEX     | <0.300 | 0.300           | 09/27/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 2200   | 16.0            | 09/28/2022 | ND              | 432 | 108        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 230 | 115        | 200           | 1.58  |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 239 | 120        | 200           | 0.398 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 82.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 93.3 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 5 (14'-15') (H224460-37)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |  |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 1.84 | 92.0       | 2.00          | 9.06 |           |  |
| Toluene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.01 | 101        | 2.00          | 10.1 |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 09/27/2022 | ND              | 1.91 | 95.3       | 2.00          | 8.05 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 09/27/2022 | ND              | 5.70 | 95.1       | 6.00          | 9.78 |           |  |
| Total BTEX     | <0.300 | 0.300           | 09/27/2022 | ND              |      |            |               |      |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 103 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 944    | 16.0            | 09/28/2022 | ND              | 432 | 108        | 400           | 0.00 |           |  |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |  |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|--|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |  |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 230 | 115        | 200           | 1.58  |           |  |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 239 | 120        | 200           | 0.398 |           |  |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |       |           |  |

Surrogate: 1-Chlorooctane 83.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 93.5 % 46.3-178

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PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 5 (19'-20') (H224460-38)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |  |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 1.84 | 92.0       | 2.00          | 9.06 |           |  |
| Toluene*       | <0.050 | 0.050           | 09/27/2022 | ND              | 2.01 | 101        | 2.00          | 10.1 |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 09/27/2022 | ND              | 1.91 | 95.3       | 2.00          | 8.05 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 09/27/2022 | ND              | 5.70 | 95.1       | 6.00          | 9.78 |           |  |
| Total BTEX     | <0.300 | 0.300           | 09/27/2022 | ND              |      |            |               |      |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 1760   | 16.0            | 09/28/2022 | ND              | 432 | 108        | 400           | 0.00 |           |  |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |  |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|--|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |  |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 230 | 115        | 200           | 1.58  |           |  |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 239 | 120        | 200           | 0.398 |           |  |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |       |           |  |

Surrogate: 1-Chlorooctane 83.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 94.0 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 6 (0-1') (H224460-39)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 1.84 | 92.0       | 2.00          | 9.06 |           |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.01 | 101        | 2.00          | 10.1 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.91 | 95.3       | 2.00          | 8.05 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.70 | 95.1       | 6.00          | 9.78 |           |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 128    | 16.0            | 09/28/2022 | ND              | 432 | 108        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 230 | 115        | 200           | 1.58  |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 239 | 120        | 200           | 0.398 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 79.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 89.8 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 6 (2'-3') (H224460-40)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 1.84 | 92.0       | 2.00          | 9.06 |           |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.01 | 101        | 2.00          | 10.1 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.91 | 95.3       | 2.00          | 8.05 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.70 | 95.1       | 6.00          | 9.78 |           |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 103 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 208    | 16.0            | 09/28/2022 | ND              | 432 | 108        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 230 | 115        | 200           | 1.58  |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 239 | 120        | 200           | 0.398 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 89.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 103 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 6 (3'-4') (H224460-41)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |  |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 1.84 | 92.0       | 2.00          | 9.06 |           |  |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.01 | 101        | 2.00          | 10.1 |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.91 | 95.3       | 2.00          | 8.05 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.70 | 95.1       | 6.00          | 9.78 |           |  |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |      |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 688    | 16.0            | 09/28/2022 | ND              | 432 | 108        | 400           | 0.00 |           |  |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |  |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|--|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |  |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 230 | 115        | 200           | 1.58  |           |  |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 239 | 120        | 200           | 0.398 |           |  |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |       |           |  |

Surrogate: 1-Chlorooctane 91.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 105 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 6 (4'-5') (H224460-42)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 1.84 | 92.0       | 2.00          | 9.06 |           |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.01 | 101        | 2.00          | 10.1 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.91 | 95.3       | 2.00          | 8.05 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.70 | 95.1       | 6.00          | 9.78 |           |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 1040   | 16.0            | 09/27/2022 | ND              | 432 | 108        | 400           | 3.77 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 230 | 115        | 200           | 1.58  |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 239 | 120        | 200           | 0.398 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 84.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 96.8 % 46.3-178

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 6 (6'-7') (H224460-43)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 1.84 | 92.0       | 2.00          | 9.06 |           |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.01 | 101        | 2.00          | 10.1 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.91 | 95.3       | 2.00          | 8.05 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.70 | 95.1       | 6.00          | 9.78 |           |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 103 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 1310   | 16.0            | 09/27/2022 | ND              | 432 | 108        | 400           | 3.77 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 230 | 115        | 200           | 1.58  |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 239 | 120        | 200           | 0.398 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 85.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 99.0 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 6 (8'-9') (H224460-44)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 1.84 | 92.0       | 2.00          | 9.06 |           |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.01 | 101        | 2.00          | 10.1 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.91 | 95.3       | 2.00          | 8.05 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.70 | 95.1       | 6.00          | 9.78 |           |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 1460   | 16.0            | 09/27/2022 | ND              | 432 | 108        | 400           | 3.77 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 230 | 115        | 200           | 1.58  |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 239 | 120        | 200           | 0.398 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 87.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 100 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 6 (14'-15') (H224460-45)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |  |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 1.84 | 92.0       | 2.00          | 9.06 |           |  |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.01 | 101        | 2.00          | 10.1 |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.91 | 95.3       | 2.00          | 8.05 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.70 | 95.1       | 6.00          | 9.78 |           |  |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |      |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 103 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 1380   | 16.0            | 09/27/2022 | ND              | 432 | 108        | 400           | 3.77 |           |  |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: CK |     |            |               |       |           |  |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|--|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |  |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 203 | 102        | 200           | 1.09  |           |  |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 206 | 103        | 200           | 0.321 |           |  |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |       |           |  |

Surrogate: 1-Chlorooctane 137 % 45.3-161

Surrogate: 1-Chlorooctadecane 162 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 6 (19'-20') (H224460-46)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 1.84 | 92.0       | 2.00          | 9.06 |           |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.01 | 101        | 2.00          | 10.1 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.91 | 95.3       | 2.00          | 8.05 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.70 | 95.1       | 6.00          | 9.78 |           |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 103 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 1390   | 16.0            | 09/27/2022 | ND              | 432 | 108        | 400           | 3.77 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: CK |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 203 | 102        | 200           | 1.09  |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 206 | 103        | 200           | 0.321 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 100 % 45.3-161

Surrogate: 1-Chlorooctadecane 119 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 3 (3'-4') (H224460-47)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 1.84 | 92.0       | 2.00          | 9.06 |           |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.01 | 101        | 2.00          | 10.1 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.91 | 95.3       | 2.00          | 8.05 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.70 | 95.1       | 6.00          | 9.78 |           |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 103 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 1790   | 16.0            | 09/27/2022 | ND              | 432 | 108        | 400           | 3.77 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: CK |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 203 | 102        | 200           | 1.09  |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 206 | 103        | 200           | 0.321 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 103 % 45.3-161

Surrogate: 1-Chlorooctadecane 122 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 09/26/2022         | Sampling Date:      | 09/26/2022       |
| Reported:         | 09/28/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact    |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - LEA CO, NM   |                     |                  |

**Sample ID: B - 4 (3'-4') (H224460-48)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 1.84 | 92.0       | 2.00          | 9.06 |           |
| Toluene*       | <0.050 | 0.050           | 09/28/2022 | ND              | 2.01 | 101        | 2.00          | 10.1 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 09/28/2022 | ND              | 1.91 | 95.3       | 2.00          | 8.05 |           |
| Total Xylenes* | <0.150 | 0.150           | 09/28/2022 | ND              | 5.70 | 95.1       | 6.00          | 9.78 |           |
| Total BTEX     | <0.300 | 0.300           | 09/28/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 3280   | 16.0            | 09/27/2022 | ND              | 432 | 108        | 400           | 3.77 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: CK |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 09/27/2022 | ND              | 203 | 102        | 200           | 1.09  |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 09/27/2022 | ND              | 206 | 103        | 200           | 0.321 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 09/27/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 100 % 45.3-161

Surrogate: 1-Chlorooctadecane 119 % 46.3-178

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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

P.O. #:

Company: *Tetra Tech*

Attn: *Christy Lull*

Address: *by email*

City: State: Zip:

Phone #: Fax #:

Fax #:

1/5

Company Name: *Conoco Phillips*  
 Project Manager: *Christy Lull*  
 Address:  
 City: State: Zip:  
 Phone #: Fax #:  
 Project #: *212C-MD-02292* Project Owner:  
 Project Name: *James A Water Flood*  
 Project Location: *Eddy County, NM*  
 Sampler Name: *Cathy Birkelhead*

FOR LAB USE ONLY

| Lab I.D.      | Sample I.D.         | (G)RAB OR (C)OMP. | # CONTAINERS | MATRIX      |            |          |     |        |         | PRESERV.   |            | DATE           | TIME | TPH      | BTEX     | Chlorides |
|---------------|---------------------|-------------------|--------------|-------------|------------|----------|-----|--------|---------|------------|------------|----------------|------|----------|----------|-----------|
|               |                     |                   |              | GROUNDWATER | WASTEWATER | SOIL     | OIL | SLUDGE | OTHER : | ACID/BASE: | ICE / COOL |                |      |          |          |           |
| <i>B04400</i> | <i>BH-10-1) B-1</i> | <i>G</i>          | <i>1</i>     |             |            | <i>X</i> |     |        |         |            |            | <i>9/26/22</i> |      | <i>X</i> | <i>X</i> | <i>X</i>  |
|               | <i>BH-12-3) B-1</i> |                   |              |             |            |          |     |        |         |            |            |                |      |          |          |           |
|               | <i>BH-13-4) B-1</i> |                   |              |             |            |          |     |        |         |            |            |                |      |          |          |           |
|               | <i>B-1 (4-5)</i>    |                   |              |             |            |          |     |        |         |            |            |                |      |          |          |           |
|               | <i>B-1 (6-7)</i>    |                   |              |             |            |          |     |        |         |            |            |                |      |          |          |           |
|               | <i>B-1 (8-9)</i>    |                   |              |             |            |          |     |        |         |            |            |                |      |          |          |           |
|               | <i>B-1 (14-15)</i>  |                   |              |             |            |          |     |        |         |            |            |                |      |          |          |           |
|               | <i>B-1 (19-20)</i>  |                   |              |             |            |          |     |        |         |            |            |                |      |          |          |           |
|               | <i>B-2 (0-1)</i>    |                   |              |             |            |          |     |        |         |            |            |                |      |          |          |           |
|               | <i>B-2 (2-3)</i>    |                   |              |             |            |          |     |        |         |            |            |                |      |          |          |           |

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Relinquished By: *Callie B*  
 Date: *9/26/22*  
 Time: *5:11*  
 Received By: *Shedrickigney*  
 Date: \_\_\_\_\_  
 Time: \_\_\_\_\_

Delivered By: (Circle One)  UPS  Bus  Other:  
 Observed Temp. °C: *0.9*  
 Corrected Temp. °C: *0.3*  
 Sample Condition:  Intact  Cool  Intact  Yes  No  Yes  No  
 CHECKED BY: *SK*  
 Turnaround Time: \_\_\_\_\_  
 Standard  *RUSH*  
 Bacteria (only) Sample Condition:  Cool  Intact  Yes  No  Yes  No  
 Corrected Temp. °C: \_\_\_\_\_

REMARKS: *Christy Lull tetratech.com*  
*TEMP BLANK: -0.16*





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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

3/5

BILL TO

ANALYSIS REQUEST

P.O. #:

Company: *Tetra Tech*

Attn: *Christen Hull*

Address: *by email*

City:

State:

Phone #:

Fax #:

Company Name: *Caraco Phylips*  
Project Manager: *Christen Hull*

Address:

City:

State:

Zip:

Project #: *212-MO-022792* Project Owner:

Project Name: *James A Water Flood*

Project Location: *Eddy County, NM*

Sample Name: *Lehna BTKeeper*

Lab I.D. Sample I.D.

| Lab I.D.            | Sample I.D.         | (G)RAB OR (C)OMP. | # CONTAINERS | MATRIX      |            |          |     |        |         | DATE           | TIME | ANALYSIS REQUEST |                  |  |  |  |  |  |  |
|---------------------|---------------------|-------------------|--------------|-------------|------------|----------|-----|--------|---------|----------------|------|------------------|------------------|--|--|--|--|--|--|
|                     |                     |                   |              | GROUNDWATER | WASTEWATER | SOIL     | OIL | SLUDGE | OTHER : |                |      |                  |                  |  |  |  |  |  |  |
| <i>B-3 (19-91)</i>  | <i>B-3 (19-15')</i> | <i>5</i>          | <i>1</i>     |             |            | <i>X</i> |     |        |         | <i>9/26/22</i> |      | <i>TPH</i>       |                  |  |  |  |  |  |  |
| <i>B-3 (19-20')</i> | <i>B-3 (19-20')</i> |                   |              |             |            |          |     |        |         |                |      |                  | <i>BTEX</i>      |  |  |  |  |  |  |
| <i>B-4 (10-1')</i>  | <i>B-4 (10-1')</i>  |                   |              |             |            |          |     |        |         |                |      |                  | <i>Chlorides</i> |  |  |  |  |  |  |
| <i>B-4 (24-3')</i>  | <i>B-4 (24-3')</i>  |                   |              |             |            |          |     |        |         |                |      |                  |                  |  |  |  |  |  |  |
| <i>B-4 (24-5')</i>  | <i>B-4 (24-5')</i>  |                   |              |             |            |          |     |        |         |                |      |                  |                  |  |  |  |  |  |  |
| <i>B-4 (26-7')</i>  | <i>B-4 (26-7')</i>  |                   |              |             |            |          |     |        |         |                |      |                  |                  |  |  |  |  |  |  |
| <i>B-4 (19-91)</i>  | <i>B-4 (19-91)</i>  |                   |              |             |            |          |     |        |         |                |      |                  |                  |  |  |  |  |  |  |
| <i>B-4 (19-5')</i>  | <i>B-4 (19-5')</i>  |                   |              |             |            |          |     |        |         |                |      |                  |                  |  |  |  |  |  |  |
| <i>B-4 (19-20')</i> | <i>B-4 (19-20')</i> |                   |              |             |            |          |     |        |         |                |      |                  |                  |  |  |  |  |  |  |

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Relinquished By: *Christen Hull*

Date: *9/26/22*

Received By: *Steddie Riquena*

Verbal Result:  Yes  No Add'l Phone #:  
All Results are emailed. Please provide Email address:  
REMARKS: *Christen.Hull@tetratech.com*

Relinquished By: *Christen Hull*

Date: *9/26/22*

Received By: *Steddie Riquena*

Turnaround Time: *0.12* Standard  Rush   
Thermometer ID #113 *0.12*  
Correction Factor *0.12*  
Bacteria (only) Sample Condition Cool Intact  Yes  No  Yes  No  No Corrected Temp. °C

Delivered By: (Circle One) *UPS*

Observed Temp. °C *0.91*

Sample Condition Cool Intact  Yes  No  Yes  No

CHECKED BY: *SR* (initials)

Sampler - UPS - Bus - Other:

Corrected Temp. °C *0.32*

Sample Condition Cool Intact  Yes  No  Yes  No

Turnaround Time: *0.12* Standard  Rush   
Thermometer ID #113 *0.12*  
Correction Factor *0.12*  
Bacteria (only) Sample Condition Cool Intact  Yes  No  Yes  No  No Corrected Temp. °C





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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

5/5

BILL TO

ANALYSIS REQUEST

|  |  |                            |  |
|--|--|----------------------------|--|
| Company Name: <u>Carcel Phillips</u>     |  | P.O. #:                    |  |
| Project Manager: <u>Christen Hull</u>    |  | Company: <u>Tetra Tech</u> |  |
| Address:                                 |  | Attn: <u>Christen Hull</u> |  |
| City:                                    |  | Address: <u>by email</u>   |  |
| State:                                   |  | City:                      |  |
| Zip:                                     |  | State:                     |  |
| Phone #:                                 |  | Zip:                       |  |
| Fax #:                                   |  | Phone #:                   |  |
| Project #: <u>22C-MD-02792</u>           |  | Project Owner:             |  |
| Project Name: <u>Jones A Water Pool</u>  |  | City:                      |  |
| Project Location: <u>Eddy County, NM</u> |  | State:                     |  |
| Sample Name: <u>Alfa Rikerwater</u>      |  | Phone #:                   |  |
| FOR LAB USE ONLY                         |  | Fax #:                     |  |

| Lab I.D.       | Sample I.D.        | (G)RAB OR (C)OMP. | # CONTAINERS | MATRIX      |            |      |     |        |         | PRESERV.   |            |         | DATE | TIME | REMARKS |                  |
|----------------|--------------------|-------------------|--------------|-------------|------------|------|-----|--------|---------|------------|------------|---------|------|------|---------|------------------|
|                |                    |                   |              | GROUNDWATER | WASTEWATER | SOIL | OIL | SLUDGE | OTHER : | ACID/BASE: | ICE / COOL | OTHER : |      |      |         |                  |
| <u>1B24400</u> |                    |                   |              |             |            |      |     |        |         |            |            |         |      |      |         |                  |
| <u>41</u>      | <u>B-6 (13-4)</u>  | <u>G</u>          | <u>1</u>     |             |            |      |     |        |         |            |            |         |      |      |         | <u>TPH</u>       |
| <u>42</u>      | <u>B-6 (14-5)</u>  | <u>1</u>          | <u>1</u>     |             |            |      |     |        |         |            |            |         |      |      |         | <u>BTEX</u>      |
| <u>43</u>      | <u>B-6 (18-7)</u>  | <u>1</u>          | <u>1</u>     |             |            |      |     |        |         |            |            |         |      |      |         | <u>Chlorides</u> |
| <u>44</u>      | <u>B-6 (18-9)</u>  | <u>1</u>          | <u>1</u>     |             |            |      |     |        |         |            |            |         |      |      |         |                  |
| <u>45</u>      | <u>B-6 (14-5)</u>  | <u>1</u>          | <u>1</u>     |             |            |      |     |        |         |            |            |         |      |      |         |                  |
| <u>46</u>      | <u>B-6 (19-20)</u> | <u>1</u>          | <u>1</u>     |             |            |      |     |        |         |            |            |         |      |      |         |                  |
| <u>47</u>      | <u>B-3 (13-4)</u>  | <u>1</u>          | <u>1</u>     |             |            |      |     |        |         |            |            |         |      |      |         |                  |
| <u>48</u>      | <u>B-4 (13-4)</u>  | <u>1</u>          | <u>1</u>     |             |            |      |     |        |         |            |            |         |      |      |         |                  |

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Relinquished By: [Signature] Date: 9/26/22 Received By: [Signature] Date: 9/26/22  
 Relinquished By: [Signature] Date: 5/11 Received By: [Signature] Date: 5/11

Delivered By: (Circle One) Observed Temp. °C: 0.92 Sample Condition: Cool Intact CHECKED BY: [Signature]  
 Sampler - UPS - Bus - Other: Corrected Temp. °C: 0.32 Cool Intact: Yes Bacteria (only) Sample Condition: Cool Intact  
 Turnaround Time: Standard Rush Add'l Phone #: [ ] Bacteria (only) Sample Condition: Cool Intact  
 Thermometer ID #113 Correction Factor: 0.02 Corrected Temp. °C: [ ]



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

---

October 11, 2022

NICHOLAS POOLE

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: JAMES A WATERFLOOD

Enclosed are the results of analyses for samples received by the laboratory on 10/06/22 10:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

|                  |                              |
|------------------|------------------------------|
| Method EPA 552.2 | Haloacetic Acids (HAA-5)     |
| Method EPA 524.2 | Total Trihalomethanes (TTHM) |
| Method EPA 524.4 | Regulated VOCs (V1, V2, V3)  |

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene".

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 NICHOLAS POOLE  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                |
|-------------------|--------------------|---------------------|----------------|
| Received:         | 10/06/2022         | Sampling Date:      | 10/05/2022     |
| Reported:         | 10/11/2022         | Sampling Type:      | Soil           |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact  |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Tamara Oldaker |
| Project Location: | COP - EDDY CO, NM  |                     |                |

**Sample ID: AH - 1 (0-1') (H224693-01)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 10/09/2022 | ND              | 2.31 | 116        | 2.00          | 4.75 |           |
| Toluene*       | <0.050 | 0.050           | 10/09/2022 | ND              | 2.16 | 108        | 2.00          | 4.22 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 10/09/2022 | ND              | 2.09 | 104        | 2.00          | 5.37 |           |
| Total Xylenes* | <0.150 | 0.150           | 10/09/2022 | ND              | 6.37 | 106        | 6.00          | 5.59 |           |
| Total BTEX     | <0.300 | 0.300           | 10/09/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 91.9 % 69.9-140

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 32.0   | 16.0            | 10/10/2022 | ND              | 416 | 104        | 400           | 7.41 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 10/08/2022 | ND              | 226 | 113        | 200           | 0.261 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 10/08/2022 | ND              | 237 | 118        | 200           | 0.910 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 10/08/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 85.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 99.4 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 NICHOLAS POOLE  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                |
|-------------------|--------------------|---------------------|----------------|
| Received:         | 10/06/2022         | Sampling Date:      | 10/05/2022     |
| Reported:         | 10/11/2022         | Sampling Type:      | Soil           |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact  |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Tamara Oldaker |
| Project Location: | COP - EDDY CO, NM  |                     |                |

**Sample ID: AH - 2 (0-1') (H224693-02)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 10/09/2022 | ND              | 2.31 | 116        | 2.00          | 4.75 |           |
| Toluene*       | <0.050 | 0.050           | 10/09/2022 | ND              | 2.16 | 108        | 2.00          | 4.22 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 10/09/2022 | ND              | 2.09 | 104        | 2.00          | 5.37 |           |
| Total Xylenes* | <0.150 | 0.150           | 10/09/2022 | ND              | 6.37 | 106        | 6.00          | 5.59 |           |
| Total BTEX     | <0.300 | 0.300           | 10/09/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 93.9 % 69.9-140

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 112    | 16.0            | 10/10/2022 | ND              | 416 | 104        | 400           | 7.41 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 10/08/2022 | ND              | 226 | 113        | 200           | 0.261 |           |
| DRO >C10-C28*    | 13.8   | 10.0            | 10/08/2022 | ND              | 237 | 118        | 200           | 0.910 |           |
| EXT DRO >C28-C36 | 11.3   | 10.0            | 10/08/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 67.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 78.5 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 NICHOLAS POOLE  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                |
|-------------------|--------------------|---------------------|----------------|
| Received:         | 10/06/2022         | Sampling Date:      | 10/05/2022     |
| Reported:         | 10/11/2022         | Sampling Type:      | Soil           |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact  |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Tamara Oldaker |
| Project Location: | COP - EDDY CO, NM  |                     |                |

**Sample ID: AH - 3 (0-1') (H224693-03)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 10/09/2022 | ND              | 2.31 | 116        | 2.00          | 4.75 |           |
| Toluene*       | <0.050 | 0.050           | 10/09/2022 | ND              | 2.16 | 108        | 2.00          | 4.22 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 10/09/2022 | ND              | 2.09 | 104        | 2.00          | 5.37 |           |
| Total Xylenes* | <0.150 | 0.150           | 10/09/2022 | ND              | 6.37 | 106        | 6.00          | 5.59 |           |
| Total BTEX     | <0.300 | 0.300           | 10/09/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 94.1 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 128    | 16.0            | 10/10/2022 | ND              | 416 | 104        | 400           | 7.41 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 10/08/2022 | ND              | 226 | 113        | 200           | 0.261 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 10/08/2022 | ND              | 237 | 118        | 200           | 0.910 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 10/08/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 73.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 87.2 % 46.3-178

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 NICHOLAS POOLE  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                |
|-------------------|--------------------|---------------------|----------------|
| Received:         | 10/06/2022         | Sampling Date:      | 10/05/2022     |
| Reported:         | 10/11/2022         | Sampling Type:      | Soil           |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact  |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Tamara Oldaker |
| Project Location: | COP - EDDY CO, NM  |                     |                |

**Sample ID: AH - 4 (0-1') (H224693-04)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 10/09/2022 | ND              | 2.31 | 116        | 2.00          | 4.75 |           |
| Toluene*       | <0.050 | 0.050           | 10/09/2022 | ND              | 2.16 | 108        | 2.00          | 4.22 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 10/09/2022 | ND              | 2.09 | 104        | 2.00          | 5.37 |           |
| Total Xylenes* | <0.150 | 0.150           | 10/09/2022 | ND              | 6.37 | 106        | 6.00          | 5.59 |           |
| Total BTEX     | <0.300 | 0.300           | 10/09/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 93.7 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 128    | 16.0            | 10/10/2022 | ND              | 416 | 104        | 400           | 7.41 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 10/08/2022 | ND              | 226 | 113        | 200           | 0.261 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 10/08/2022 | ND              | 237 | 118        | 200           | 0.910 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 10/08/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 76.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 89.9 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 NICHOLAS POOLE  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                |
|-------------------|--------------------|---------------------|----------------|
| Received:         | 10/06/2022         | Sampling Date:      | 10/05/2022     |
| Reported:         | 10/11/2022         | Sampling Type:      | Soil           |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact  |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Tamara Oldaker |
| Project Location: | COP - EDDY CO, NM  |                     |                |

**Sample ID: AH - 5 (0-1') (H224693-05)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 10/09/2022 | ND              | 2.31 | 116        | 2.00          | 4.75 |           |
| Toluene*       | <0.050 | 0.050           | 10/09/2022 | ND              | 2.16 | 108        | 2.00          | 4.22 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 10/09/2022 | ND              | 2.09 | 104        | 2.00          | 5.37 |           |
| Total Xylenes* | <0.150 | 0.150           | 10/09/2022 | ND              | 6.37 | 106        | 6.00          | 5.59 |           |
| Total BTEX     | <0.300 | 0.300           | 10/09/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 91.3 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 16.0   | 16.0            | 10/10/2022 | ND              | 416 | 104        | 400           | 7.41 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 10/08/2022 | ND              | 226 | 113        | 200           | 0.261 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 10/08/2022 | ND              | 237 | 118        | 200           | 0.910 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 10/08/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 76.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 89.2 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 NICHOLAS POOLE  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                |
|-------------------|--------------------|---------------------|----------------|
| Received:         | 10/06/2022         | Sampling Date:      | 10/05/2022     |
| Reported:         | 10/11/2022         | Sampling Type:      | Soil           |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact  |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Tamara Oldaker |
| Project Location: | COP - EDDY CO, NM  |                     |                |

**Sample ID: AH - 6 (0-1') (H224693-06)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 10/09/2022 | ND              | 2.29 | 115        | 2.00          | 1.42 | QR-03     |
| Toluene*       | <0.050 | 0.050           | 10/09/2022 | ND              | 2.16 | 108        | 2.00          | 1.43 | QR-03     |
| Ethylbenzene*  | <0.050 | 0.050           | 10/09/2022 | ND              | 2.09 | 104        | 2.00          | 1.34 | QR-03     |
| Total Xylenes* | <0.150 | 0.150           | 10/09/2022 | ND              | 6.34 | 106        | 6.00          | 1.62 |           |
| Total BTEX     | <0.300 | 0.300           | 10/09/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 91.5 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 32.0   | 16.0            | 10/10/2022 | ND              | 416 | 104        | 400           | 7.41 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 10/08/2022 | ND              | 226 | 113        | 200           | 0.261 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 10/08/2022 | ND              | 237 | 118        | 200           | 0.910 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 10/08/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 79.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 92.8 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 NICHOLAS POOLE  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                |
|-------------------|--------------------|---------------------|----------------|
| Received:         | 10/06/2022         | Sampling Date:      | 10/05/2022     |
| Reported:         | 10/11/2022         | Sampling Type:      | Soil           |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact  |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Tamara Oldaker |
| Project Location: | COP - EDDY CO, NM  |                     |                |

**Sample ID: AH - 7 (0-1') (H224693-07)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |  |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 10/09/2022 | ND              | 2.29 | 115        | 2.00          | 1.42 |           |  |
| Toluene*       | <0.050 | 0.050           | 10/09/2022 | ND              | 2.16 | 108        | 2.00          | 1.43 |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 10/09/2022 | ND              | 2.09 | 104        | 2.00          | 1.34 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 10/09/2022 | ND              | 6.34 | 106        | 6.00          | 1.62 |           |  |
| Total BTEX     | <0.300 | 0.300           | 10/09/2022 | ND              |      |            |               |      |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 91.6 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 112    | 16.0            | 10/10/2022 | ND              | 416 | 104        | 400           | 7.41 |           |  |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |  |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| GRO C6-C10*      | <10.0  | 10.0            | 10/07/2022 | ND              | 213 | 106        | 200           | 2.20 |           |  |
| DRO >C10-C28*    | <10.0  | 10.0            | 10/07/2022 | ND              | 220 | 110        | 200           | 3.73 |           |  |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 10/07/2022 | ND              |     |            |               |      |           |  |

Surrogate: 1-Chlorooctane 102 % 45.3-161

Surrogate: 1-Chlorooctadecane 108 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 NICHOLAS POOLE  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                |
|-------------------|--------------------|---------------------|----------------|
| Received:         | 10/06/2022         | Sampling Date:      | 10/05/2022     |
| Reported:         | 10/11/2022         | Sampling Type:      | Soil           |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact  |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Tamara Oldaker |
| Project Location: | COP - EDDY CO, NM  |                     |                |

**Sample ID: AH - 8 (0-1') (H224693-08)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 10/09/2022 | ND              | 2.29 | 115        | 2.00          | 1.42 |           |
| Toluene*       | <0.050 | 0.050           | 10/09/2022 | ND              | 2.16 | 108        | 2.00          | 1.43 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 10/09/2022 | ND              | 2.09 | 104        | 2.00          | 1.34 |           |
| Total Xylenes* | <0.150 | 0.150           | 10/09/2022 | ND              | 6.34 | 106        | 6.00          | 1.62 |           |
| Total BTEX     | <0.300 | 0.300           | 10/09/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 93.4 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 288    | 16.0            | 10/10/2022 | ND              | 416 | 104        | 400           | 7.41 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 10/07/2022 | ND              | 213 | 106        | 200           | 2.20 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 10/07/2022 | ND              | 220 | 110        | 200           | 3.73 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 10/07/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 87.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 90.4 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 NICHOLAS POOLE  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                |
|-------------------|--------------------|---------------------|----------------|
| Received:         | 10/06/2022         | Sampling Date:      | 10/05/2022     |
| Reported:         | 10/11/2022         | Sampling Type:      | Soil           |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact  |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Tamara Oldaker |
| Project Location: | COP - EDDY CO, NM  |                     |                |

**Sample ID: AH - 9 (0-1') (H224693-09)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.29 | 115        | 2.00          | 1.42 |           |
| Toluene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.16 | 108        | 2.00          | 1.43 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 10/10/2022 | ND              | 2.09 | 104        | 2.00          | 1.34 |           |
| Total Xylenes* | <0.150 | 0.150           | 10/10/2022 | ND              | 6.34 | 106        | 6.00          | 1.62 |           |
| Total BTEX     | <0.300 | 0.300           | 10/10/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 93.2 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 32.0   | 16.0            | 10/10/2022 | ND              | 432 | 108        | 400           | 3.77 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 10/07/2022 | ND              | 213 | 106        | 200           | 2.20 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 10/07/2022 | ND              | 220 | 110        | 200           | 3.73 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 10/07/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 105 % 45.3-161

Surrogate: 1-Chlorooctadecane 111 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 NICHOLAS POOLE  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                |
|-------------------|--------------------|---------------------|----------------|
| Received:         | 10/06/2022         | Sampling Date:      | 10/05/2022     |
| Reported:         | 10/11/2022         | Sampling Type:      | Soil           |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact  |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Tamara Oldaker |
| Project Location: | COP - EDDY CO, NM  |                     |                |

**Sample ID: AH - 10 (0-1') (H224693-10)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |  |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.29 | 115        | 2.00          | 1.42 |           |  |
| Toluene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.16 | 108        | 2.00          | 1.43 |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 10/10/2022 | ND              | 2.09 | 104        | 2.00          | 1.34 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 10/10/2022 | ND              | 6.34 | 106        | 6.00          | 1.62 |           |  |
| Total BTEX     | <0.300 | 0.300           | 10/10/2022 | ND              |      |            |               |      |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 91.8 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 32.0   | 16.0            | 10/10/2022 | ND              | 432 | 108        | 400           | 3.77 |           |  |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |  |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| GRO C6-C10*      | <10.0  | 10.0            | 10/07/2022 | ND              | 213 | 106        | 200           | 2.20 |           |  |
| DRO >C10-C28*    | <10.0  | 10.0            | 10/07/2022 | ND              | 220 | 110        | 200           | 3.73 |           |  |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 10/07/2022 | ND              |     |            |               |      |           |  |

Surrogate: 1-Chlorooctane 103 % 45.3-161

Surrogate: 1-Chlorooctadecane 109 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 NICHOLAS POOLE  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                |
|-------------------|--------------------|---------------------|----------------|
| Received:         | 10/06/2022         | Sampling Date:      | 10/05/2022     |
| Reported:         | 10/11/2022         | Sampling Type:      | Soil           |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact  |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Tamara Oldaker |
| Project Location: | COP - EDDY CO, NM  |                     |                |

**Sample ID: AH - 11 (0-1') (H224693-11)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.29 | 115        | 2.00          | 1.42 |           |
| Toluene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.16 | 108        | 2.00          | 1.43 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 10/10/2022 | ND              | 2.09 | 104        | 2.00          | 1.34 |           |
| Total Xylenes* | <0.150 | 0.150           | 10/10/2022 | ND              | 6.34 | 106        | 6.00          | 1.62 |           |
| Total BTEX     | <0.300 | 0.300           | 10/10/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 91.8 % 69.9-140

| Chloride, SM4500CI-B |             | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|-------------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result      | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| <b>Chloride</b>      | <b>5360</b> | 16.0            | 10/10/2022 | ND              | 432 | 108        | 400           | 3.77 |           |

| TPH 8015M                  |             | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|----------------------------|-------------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte                    | Result      | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*                | <10.0       | 10.0            | 10/07/2022 | ND              | 213 | 106        | 200           | 2.20 |           |
| <b>DRO &gt;C10-C28*</b>    | <b>95.7</b> | 10.0            | 10/07/2022 | ND              | 220 | 110        | 200           | 3.73 |           |
| <b>EXT DRO &gt;C28-C36</b> | <b>23.5</b> | 10.0            | 10/07/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 91.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 106 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 NICHOLAS POOLE  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                |
|-------------------|--------------------|---------------------|----------------|
| Received:         | 10/06/2022         | Sampling Date:      | 10/05/2022     |
| Reported:         | 10/11/2022         | Sampling Type:      | Soil           |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact  |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Tamara Oldaker |
| Project Location: | COP - EDDY CO, NM  |                     |                |

**Sample ID: AH - 11 (2'-3') (H224693-12)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |  |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.29 | 115        | 2.00          | 1.42 |           |  |
| Toluene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.16 | 108        | 2.00          | 1.43 |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 10/10/2022 | ND              | 2.09 | 104        | 2.00          | 1.34 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 10/10/2022 | ND              | 6.34 | 106        | 6.00          | 1.62 |           |  |
| Total BTEX     | <0.300 | 0.300           | 10/10/2022 | ND              |      |            |               |      |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 90.9 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 2400   | 16.0            | 10/10/2022 | ND              | 432 | 108        | 400           | 3.77 |           |  |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |  |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| GRO C6-C10*      | <10.0  | 10.0            | 10/07/2022 | ND              | 213 | 106        | 200           | 2.20 |           |  |
| DRO >C10-C28*    | <10.0  | 10.0            | 10/07/2022 | ND              | 220 | 110        | 200           | 3.73 |           |  |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 10/07/2022 | ND              |     |            |               |      |           |  |

Surrogate: 1-Chlorooctane 95.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 102 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 NICHOLAS POOLE  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                |
|-------------------|--------------------|---------------------|----------------|
| Received:         | 10/06/2022         | Sampling Date:      | 10/05/2022     |
| Reported:         | 10/11/2022         | Sampling Type:      | Soil           |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact  |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Tamara Oldaker |
| Project Location: | COP - EDDY CO, NM  |                     |                |

**Sample ID: AH - 11 (4'-5') (H224693-13)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |  |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.29 | 115        | 2.00          | 1.42 |           |  |
| Toluene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.16 | 108        | 2.00          | 1.43 |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 10/10/2022 | ND              | 2.09 | 104        | 2.00          | 1.34 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 10/10/2022 | ND              | 6.34 | 106        | 6.00          | 1.62 |           |  |
| Total BTEX     | <0.300 | 0.300           | 10/10/2022 | ND              |      |            |               |      |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 92.2 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 400    | 16.0            | 10/10/2022 | ND              | 432 | 108        | 400           | 3.77 |           |  |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |  |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| GRO C6-C10*      | <10.0  | 10.0            | 10/07/2022 | ND              | 213 | 106        | 200           | 2.20 |           |  |
| DRO >C10-C28*    | <10.0  | 10.0            | 10/07/2022 | ND              | 220 | 110        | 200           | 3.73 |           |  |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 10/07/2022 | ND              |     |            |               |      |           |  |

Surrogate: 1-Chlorooctane 97.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 102 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 NICHOLAS POOLE  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                |
|-------------------|--------------------|---------------------|----------------|
| Received:         | 10/06/2022         | Sampling Date:      | 10/05/2022     |
| Reported:         | 10/11/2022         | Sampling Type:      | Soil           |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact  |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Tamara Oldaker |
| Project Location: | COP - EDDY CO, NM  |                     |                |

**Sample ID: AH - 12 (0-1') (H224693-14)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.29 | 115        | 2.00          | 1.42 |           |
| Toluene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.16 | 108        | 2.00          | 1.43 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 10/10/2022 | ND              | 2.09 | 104        | 2.00          | 1.34 |           |
| Total Xylenes* | <0.150 | 0.150           | 10/10/2022 | ND              | 6.34 | 106        | 6.00          | 1.62 |           |
| Total BTEX     | <0.300 | 0.300           | 10/10/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 92.6 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 32.0   | 16.0            | 10/10/2022 | ND              | 432 | 108        | 400           | 3.77 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 10/07/2022 | ND              | 213 | 106        | 200           | 2.20 |           |
| DRO >C10-C28*    | 31.8   | 10.0            | 10/07/2022 | ND              | 220 | 110        | 200           | 3.73 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 10/07/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 84.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 86.8 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 NICHOLAS POOLE  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                |
|-------------------|--------------------|---------------------|----------------|
| Received:         | 10/06/2022         | Sampling Date:      | 10/05/2022     |
| Reported:         | 10/11/2022         | Sampling Type:      | Soil           |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact  |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Tamara Oldaker |
| Project Location: | COP - EDDY CO, NM  |                     |                |

**Sample ID: AH - 12 (2'-3') (H224693-15)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.29 | 115        | 2.00          | 1.42 |           |
| Toluene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.16 | 108        | 2.00          | 1.43 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 10/10/2022 | ND              | 2.09 | 104        | 2.00          | 1.34 |           |
| Total Xylenes* | <0.150 | 0.150           | 10/10/2022 | ND              | 6.34 | 106        | 6.00          | 1.62 |           |
| Total BTEX     | <0.300 | 0.300           | 10/10/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 91.7 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 32.0   | 16.0            | 10/10/2022 | ND              | 432 | 108        | 400           | 3.77 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 10/07/2022 | ND              | 213 | 106        | 200           | 2.20 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 10/07/2022 | ND              | 220 | 110        | 200           | 3.73 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 10/07/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 97.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 101 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 NICHOLAS POOLE  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                |
|-------------------|--------------------|---------------------|----------------|
| Received:         | 10/06/2022         | Sampling Date:      | 10/05/2022     |
| Reported:         | 10/11/2022         | Sampling Type:      | Soil           |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact  |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Tamara Oldaker |
| Project Location: | COP - EDDY CO, NM  |                     |                |

**Sample ID: AH - 13 (0-1') (H224693-16)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |  |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.29 | 115        | 2.00          | 1.42 |           |  |
| Toluene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.16 | 108        | 2.00          | 1.43 |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 10/10/2022 | ND              | 2.09 | 104        | 2.00          | 1.34 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 10/10/2022 | ND              | 6.34 | 106        | 6.00          | 1.62 |           |  |
| Total BTEX     | <0.300 | 0.300           | 10/10/2022 | ND              |      |            |               |      |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 92.3 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 16.0   | 16.0            | 10/10/2022 | ND              | 432 | 108        | 400           | 3.77 |           |  |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |  |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| GRO C6-C10*      | <10.0  | 10.0            | 10/07/2022 | ND              | 213 | 106        | 200           | 2.20 |           |  |
| DRO >C10-C28*    | <10.0  | 10.0            | 10/07/2022 | ND              | 220 | 110        | 200           | 3.73 |           |  |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 10/07/2022 | ND              |     |            |               |      |           |  |

Surrogate: 1-Chlorooctane 102 % 45.3-161

Surrogate: 1-Chlorooctadecane 107 % 46.3-178

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\* = Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 NICHOLAS POOLE  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                |
|-------------------|--------------------|---------------------|----------------|
| Received:         | 10/06/2022         | Sampling Date:      | 10/05/2022     |
| Reported:         | 10/11/2022         | Sampling Type:      | Soil           |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact  |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Tamara Oldaker |
| Project Location: | COP - EDDY CO, NM  |                     |                |

**Sample ID: AH - 13 (2'-3') (H224693-17)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |  |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.29 | 115        | 2.00          | 1.42 |           |  |
| Toluene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.16 | 108        | 2.00          | 1.43 |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 10/10/2022 | ND              | 2.09 | 104        | 2.00          | 1.34 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 10/10/2022 | ND              | 6.34 | 106        | 6.00          | 1.62 |           |  |
| Total BTEX     | <0.300 | 0.300           | 10/10/2022 | ND              |      |            |               |      |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 91.9 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 16.0   | 16.0            | 10/10/2022 | ND              | 432 | 108        | 400           | 3.77 |           |  |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |  |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| GRO C6-C10*      | <10.0  | 10.0            | 10/07/2022 | ND              | 213 | 106        | 200           | 2.20 |           |  |
| DRO >C10-C28*    | <10.0  | 10.0            | 10/07/2022 | ND              | 220 | 110        | 200           | 3.73 |           |  |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 10/07/2022 | ND              |     |            |               |      |           |  |

Surrogate: 1-Chlorooctane 102 % 45.3-161

Surrogate: 1-Chlorooctadecane 111 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 NICHOLAS POOLE  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                |
|-------------------|--------------------|---------------------|----------------|
| Received:         | 10/06/2022         | Sampling Date:      | 10/05/2022     |
| Reported:         | 10/11/2022         | Sampling Type:      | Soil           |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact  |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Tamara Oldaker |
| Project Location: | COP - EDDY CO, NM  |                     |                |

**Sample ID: AH - 14 (0-1') (H224693-18)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.29 | 115        | 2.00          | 1.42 |           |
| Toluene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.16 | 108        | 2.00          | 1.43 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 10/10/2022 | ND              | 2.09 | 104        | 2.00          | 1.34 |           |
| Total Xylenes* | <0.150 | 0.150           | 10/10/2022 | ND              | 6.34 | 106        | 6.00          | 1.62 |           |
| Total BTEX     | <0.300 | 0.300           | 10/10/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 93.5 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 384    | 16.0            | 10/10/2022 | ND              | 432 | 108        | 400           | 3.77 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 10/07/2022 | ND              | 213 | 106        | 200           | 2.20 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 10/07/2022 | ND              | 220 | 110        | 200           | 3.73 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 10/07/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 102 % 45.3-161

Surrogate: 1-Chlorooctadecane 107 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 NICHOLAS POOLE  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                |
|-------------------|--------------------|---------------------|----------------|
| Received:         | 10/06/2022         | Sampling Date:      | 10/05/2022     |
| Reported:         | 10/11/2022         | Sampling Type:      | Soil           |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact  |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Tamara Oldaker |
| Project Location: | COP - EDDY CO, NM  |                     |                |

**Sample ID: AH - 14 (2'-3') (H224693-19)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |  |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.29 | 115        | 2.00          | 1.42 |           |  |
| Toluene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.16 | 108        | 2.00          | 1.43 |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 10/10/2022 | ND              | 2.09 | 104        | 2.00          | 1.34 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 10/10/2022 | ND              | 6.34 | 106        | 6.00          | 1.62 |           |  |
| Total BTEX     | <0.300 | 0.300           | 10/10/2022 | ND              |      |            |               |      |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 92.0 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 320    | 16.0            | 10/10/2022 | ND              | 432 | 108        | 400           | 3.77 |           |  |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |  |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| GRO C6-C10*      | <10.0  | 10.0            | 10/07/2022 | ND              | 213 | 106        | 200           | 2.20 |           |  |
| DRO >C10-C28*    | <10.0  | 10.0            | 10/07/2022 | ND              | 220 | 110        | 200           | 3.73 |           |  |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 10/07/2022 | ND              |     |            |               |      |           |  |

Surrogate: 1-Chlorooctane 106 % 45.3-161

Surrogate: 1-Chlorooctadecane 113 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 NICHOLAS POOLE  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                |
|-------------------|--------------------|---------------------|----------------|
| Received:         | 10/06/2022         | Sampling Date:      | 10/05/2022     |
| Reported:         | 10/11/2022         | Sampling Type:      | Soil           |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact  |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Tamara Oldaker |
| Project Location: | COP - EDDY CO, NM  |                     |                |

**Sample ID: AH - 15 (0-1') (H224693-20)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.29 | 115        | 2.00          | 1.42 |           |
| Toluene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.16 | 108        | 2.00          | 1.43 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 10/10/2022 | ND              | 2.09 | 104        | 2.00          | 1.34 |           |
| Total Xylenes* | <0.150 | 0.150           | 10/10/2022 | ND              | 6.34 | 106        | 6.00          | 1.62 |           |
| Total BTEX     | <0.300 | 0.300           | 10/10/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 91.3 % 69.9-140

| Chloride, SM4500CI-B |              | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result       | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| <b>Chloride</b>      | <b>12400</b> | 16.0            | 10/10/2022 | ND              | 432 | 108        | 400           | 3.77 |           |

| TPH 8015M                  |             | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|----------------------------|-------------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte                    | Result      | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*                | <10.0       | 10.0            | 10/08/2022 | ND              | 213 | 106        | 200           | 2.20 |           |
| <b>DRO &gt;C10-C28*</b>    | <b>190</b>  | 10.0            | 10/08/2022 | ND              | 220 | 110        | 200           | 3.73 |           |
| <b>EXT DRO &gt;C28-C36</b> | <b>52.7</b> | 10.0            | 10/08/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 86.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 90.9 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 NICHOLAS POOLE  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                |
|-------------------|--------------------|---------------------|----------------|
| Received:         | 10/06/2022         | Sampling Date:      | 10/05/2022     |
| Reported:         | 10/11/2022         | Sampling Type:      | Soil           |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact  |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Tamara Oldaker |
| Project Location: | COP - EDDY CO, NM  |                     |                |

**Sample ID: AH - 15 (2'-3') (H224693-21)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |  |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.29 | 115        | 2.00          | 1.42 |           |  |
| Toluene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.16 | 108        | 2.00          | 1.43 |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 10/10/2022 | ND              | 2.09 | 104        | 2.00          | 1.34 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 10/10/2022 | ND              | 6.34 | 106        | 6.00          | 1.62 |           |  |
| Total BTEX     | <0.300 | 0.300           | 10/10/2022 | ND              |      |            |               |      |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 89.7 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 5840   | 16.0            | 10/10/2022 | ND              | 432 | 108        | 400           | 3.77 |           |  |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |  |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| GRO C6-C10*      | <10.0  | 10.0            | 10/08/2022 | ND              | 213 | 106        | 200           | 2.20 |           |  |
| DRO >C10-C28*    | <10.0  | 10.0            | 10/08/2022 | ND              | 220 | 110        | 200           | 3.73 |           |  |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 10/08/2022 | ND              |     |            |               |      |           |  |

Surrogate: 1-Chlorooctane 102 % 45.3-161

Surrogate: 1-Chlorooctadecane 106 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 NICHOLAS POOLE  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                |
|-------------------|--------------------|---------------------|----------------|
| Received:         | 10/06/2022         | Sampling Date:      | 10/05/2022     |
| Reported:         | 10/11/2022         | Sampling Type:      | Soil           |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | Cool & Intact  |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Tamara Oldaker |
| Project Location: | COP - EDDY CO, NM  |                     |                |

**Sample ID: AH - 15 (4'-5') (H224693-22)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH |      |            |               |      |           |  |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.29 | 115        | 2.00          | 1.42 |           |  |
| Toluene*       | <0.050 | 0.050           | 10/10/2022 | ND              | 2.16 | 108        | 2.00          | 1.43 |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 10/10/2022 | ND              | 2.09 | 104        | 2.00          | 1.34 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 10/10/2022 | ND              | 6.34 | 106        | 6.00          | 1.62 |           |  |
| Total BTEX     | <0.300 | 0.300           | 10/10/2022 | ND              |      |            |               |      |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 92.4 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 2840   | 16.0            | 10/10/2022 | ND              | 432 | 108        | 400           | 3.77 |           |  |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |  |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| GRO C6-C10*      | <10.0  | 10.0            | 10/08/2022 | ND              | 213 | 106        | 200           | 2.20 |           |  |
| DRO >C10-C28*    | <10.0  | 10.0            | 10/08/2022 | ND              | 220 | 110        | 200           | 3.73 |           |  |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 10/08/2022 | ND              |     |            |               |      |           |  |

Surrogate: 1-Chlorooctane 104 % 45.3-161

Surrogate: 1-Chlorooctadecane 110 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCS/D recovery and/or RPD values.
- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

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*Celey D. Keene*

Celey D. Keene, Lab Director/Quality Manager





101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

213

BILL TO

ANALYSIS REQUEST

Company Name: ConocoPhillips  
 Project Manager: Nicholas Poole  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Phone #: \_\_\_\_\_ Fax #: \_\_\_\_\_  
 Project #: 212-MD-02292 Project Owner: \_\_\_\_\_  
 Project Name: James A Water Flood  
 Project Location: Eddy County, NM  
 Sampler Name: Cotton Bickelkopf  
 P.O. #: \_\_\_\_\_  
 Company: Tetra Tech  
 Attn: Christen Linn  
 Address: by email  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Phone #: \_\_\_\_\_ Fax #: \_\_\_\_\_

| Lab I.D.       | Sample I.D.            | (G)RAB OR (C)OMP. | # CONTAINERS | MATRIX      |            |          |     |        |         | DATE           | TIME | TPH      | BTEX     | Chlorides |
|----------------|------------------------|-------------------|--------------|-------------|------------|----------|-----|--------|---------|----------------|------|----------|----------|-----------|
|                |                        |                   |              | GROUNDWATER | WASTEWATER | SOIL     | OIL | SLUDGE | OTHER : |                |      |          |          |           |
| <u>H024693</u> | <u>AH-11 (0-1')</u>    | <u>G</u>          | <u>1</u>     |             |            | <u>X</u> |     |        |         | <u>10/5/22</u> |      | <u>X</u> | <u>X</u> | <u>X</u>  |
|                | <u>12 AH-11 (2-3')</u> |                   |              |             |            |          |     |        |         |                |      |          |          |           |
|                | <u>13 AH-11 (4-5')</u> |                   |              |             |            |          |     |        |         |                |      |          |          |           |
|                | <u>14 AH-12 (0-1')</u> |                   |              |             |            |          |     |        |         |                |      |          |          |           |
|                | <u>15 AH-12 (2-3')</u> |                   |              |             |            |          |     |        |         |                |      |          |          |           |
|                | <u>16 AH-13 (0-1')</u> |                   |              |             |            |          |     |        |         |                |      |          |          |           |
|                | <u>17 AH-13 (2-3')</u> |                   |              |             |            |          |     |        |         |                |      |          |          |           |
|                | <u>18 AH-14 (0-1')</u> |                   |              |             |            |          |     |        |         |                |      |          |          |           |
|                | <u>19 AH-14 (2-3')</u> |                   |              |             |            |          |     |        |         |                |      |          |          |           |
|                | <u>20 AH-15 (0-1')</u> |                   |              |             |            |          |     |        |         |                |      |          |          |           |

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Relinquished By: [Signature] Date: 10/6/22 Received By: [Signature]  
 Relinquished By: [Signature] Date: 10/4 Received By: [Signature]

Delivered By: (Circle One) 33 Observed Temp. °C 23 Sample Condition  Intact  Cool  Yes  No  Intact  Yes  No  
 Sampler - UPS - Bus - Other: 1.7 Corrected Temp. °C 1.7 CHECKED BY: [Signature] (Initials)  
 Turnaround Time: Standard   Rush  Add'l Phone #: \_\_\_\_\_  
 Thermometer ID #113 Correction Factor -0.5°C 10/6/22 Bacteria (only)  Cool Intact  Yes  No  Sample Condition  Observed Temp. °C  Corrected Temp. °C

† Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

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December 15, 2022

CHRISTIAN LLULL

TETRA TECH

901 WEST WALL STREET , STE 100

MIDLAND, TX 79701

RE: JAMES A WATERFLOOD

Enclosed are the results of analyses for samples received by the laboratory on 12/12/22 15:19.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-22-15. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

|                  |                              |
|------------------|------------------------------|
| Method EPA 552.2 | Haloacetic Acids (HAA-5)     |
| Method EPA 524.2 | Total Trihalomethanes (TTHM) |
| Method EPA 524.4 | Regulated VOCs (V1, V2, V3)  |

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive style with a large, flowing "C" at the beginning.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 12/12/2022         | Sampling Date:      | 12/12/2022       |
| Reported:         | 12/15/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | ** (See Notes)   |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - EDDY CO, NM  |                     |                  |

**Sample ID: B - 7 (0-1') (H225848-01)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH/ |      |            |               |       |           |
|----------------|--------|-----------------|------------|------------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank     | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.25  |           |
| Toluene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.41  |           |
| Ethylbenzene*  | <0.050 | 0.050           | 12/13/2022 | ND               | 2.17 | 109        | 2.00          | 0.453 |           |
| Total Xylenes* | <0.150 | 0.150           | 12/13/2022 | ND               | 6.66 | 111        | 6.00          | 0.413 |           |
| Total BTEX     | <0.300 | 0.300           | 12/13/2022 | ND               |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.9-140

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: AC |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 8260   | 16.0            | 12/13/2022 | ND              | 400 | 100        | 400           | 3.92 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 12/13/2022 | ND              | 197 | 98.6       | 200           | 0.758 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 12/13/2022 | ND              | 204 | 102        | 200           | 0.639 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 12/13/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 66.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 71.7 % 46.3-178

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 12/12/2022         | Sampling Date:      | 12/12/2022       |
| Reported:         | 12/15/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | ** (See Notes)   |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - EDDY CO, NM  |                     |                  |

**Sample ID: B - 7 (2'-3') (H225848-02)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH/ |      |            |               |       |           |  |
|----------------|--------|-----------------|------------|------------------|------|------------|---------------|-------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank     | BS   | % Recovery | True Value QC | RPD   | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.25  |           |  |
| Toluene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.41  |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 12/13/2022 | ND               | 2.17 | 109        | 2.00          | 0.453 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 12/13/2022 | ND               | 6.66 | 111        | 6.00          | 0.413 |           |  |
| Total BTEX     | <0.300 | 0.300           | 12/13/2022 | ND               |      |            |               |       |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 107 % 69.9-140

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: AC |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 4000   | 16.0            | 12/13/2022 | ND              | 400 | 100        | 400           | 3.92 |           |  |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |  |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|--|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |  |
| GRO C6-C10*      | <10.0  | 10.0            | 12/13/2022 | ND              | 197 | 98.6       | 200           | 0.758 |           |  |
| DRO >C10-C28*    | <10.0  | 10.0            | 12/13/2022 | ND              | 204 | 102        | 200           | 0.639 |           |  |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 12/13/2022 | ND              |     |            |               |       |           |  |

Surrogate: 1-Chlorooctane 64.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 69.5 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 12/12/2022         | Sampling Date:      | 12/12/2022       |
| Reported:         | 12/15/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | ** (See Notes)   |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - EDDY CO, NM  |                     |                  |

**Sample ID: B - 7 (3'-4') (H225848-03)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH/ |      |            |               |       |           |  |
|----------------|--------|-----------------|------------|------------------|------|------------|---------------|-------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank     | BS   | % Recovery | True Value QC | RPD   | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.25  |           |  |
| Toluene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.41  |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 12/13/2022 | ND               | 2.17 | 109        | 2.00          | 0.453 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 12/13/2022 | ND               | 6.66 | 111        | 6.00          | 0.413 |           |  |
| Total BTEX     | <0.300 | 0.300           | 12/13/2022 | ND               |      |            |               |       |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 112 % 69.9-140

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: AC |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 976    | 16.0            | 12/13/2022 | ND              | 400 | 100        | 400           | 3.92 |           |  |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |  |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|--|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |  |
| GRO C6-C10*      | <10.0  | 10.0            | 12/13/2022 | ND              | 197 | 98.6       | 200           | 0.758 |           |  |
| DRO >C10-C28*    | <10.0  | 10.0            | 12/13/2022 | ND              | 204 | 102        | 200           | 0.639 |           |  |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 12/13/2022 | ND              |     |            |               |       |           |  |

Surrogate: 1-Chlorooctane 80.3 % 45.3-161

Surrogate: 1-Chlorooctadecane 86.4 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 12/12/2022         | Sampling Date:      | 12/12/2022       |
| Reported:         | 12/15/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | ** (See Notes)   |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - EDDY CO, NM  |                     |                  |

**Sample ID: B - 7 (4'-5') (H225848-04)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH/ |      |            |               |       |           |
|----------------|--------|-----------------|------------|------------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank     | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.25  |           |
| Toluene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.41  |           |
| Ethylbenzene*  | <0.050 | 0.050           | 12/13/2022 | ND               | 2.17 | 109        | 2.00          | 0.453 |           |
| Total Xylenes* | <0.150 | 0.150           | 12/13/2022 | ND               | 6.66 | 111        | 6.00          | 0.413 |           |
| Total BTEX     | <0.300 | 0.300           | 12/13/2022 | ND               |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 108 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: AC |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 336    | 16.0            | 12/13/2022 | ND              | 400 | 100        | 400           | 3.92 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 12/13/2022 | ND              | 197 | 98.6       | 200           | 0.758 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 12/13/2022 | ND              | 204 | 102        | 200           | 0.639 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 12/13/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 58.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 61.6 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 12/12/2022         | Sampling Date:      | 12/12/2022       |
| Reported:         | 12/15/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | ** (See Notes)   |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - EDDY CO, NM  |                     |                  |

**Sample ID: B - 7 (6'-7') (H225848-05)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH/ |      |            |               |       |           |
|----------------|--------|-----------------|------------|------------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank     | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.25  |           |
| Toluene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.41  |           |
| Ethylbenzene*  | <0.050 | 0.050           | 12/13/2022 | ND               | 2.17 | 109        | 2.00          | 0.453 |           |
| Total Xylenes* | <0.150 | 0.150           | 12/13/2022 | ND               | 6.66 | 111        | 6.00          | 0.413 |           |
| Total BTEX     | <0.300 | 0.300           | 12/13/2022 | ND               |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 109 % 69.9-140

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: AC |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 272    | 16.0            | 12/13/2022 | ND              | 400 | 100        | 400           | 3.92 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 12/13/2022 | ND              | 197 | 98.6       | 200           | 0.758 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 12/13/2022 | ND              | 204 | 102        | 200           | 0.639 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 12/13/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 65.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 69.6 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 12/12/2022         | Sampling Date:      | 12/12/2022       |
| Reported:         | 12/15/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | ** (See Notes)   |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - EDDY CO, NM  |                     |                  |

**Sample ID: B - 7 (8'-9') (H225848-06)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH/ |      |            |               |       |           |  |
|----------------|--------|-----------------|------------|------------------|------|------------|---------------|-------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank     | BS   | % Recovery | True Value QC | RPD   | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.25  |           |  |
| Toluene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.41  |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 12/13/2022 | ND               | 2.17 | 109        | 2.00          | 0.453 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 12/13/2022 | ND               | 6.66 | 111        | 6.00          | 0.413 |           |  |
| Total BTEX     | <0.300 | 0.300           | 12/13/2022 | ND               |      |            |               |       |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 108 % 69.9-140

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: AC |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 224    | 16.0            | 12/13/2022 | ND              | 400 | 100        | 400           | 3.92 |           |  |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |  |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|--|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |  |
| GRO C6-C10*      | <10.0  | 10.0            | 12/13/2022 | ND              | 197 | 98.6       | 200           | 0.758 |           |  |
| DRO >C10-C28*    | <10.0  | 10.0            | 12/13/2022 | ND              | 204 | 102        | 200           | 0.639 |           |  |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 12/13/2022 | ND              |     |            |               |       |           |  |

Surrogate: 1-Chlorooctane 50.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 54.5 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 12/12/2022         | Sampling Date:      | 12/12/2022       |
| Reported:         | 12/15/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | ** (See Notes)   |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - EDDY CO, NM  |                     |                  |

**Sample ID: B - 7 (14'-15') (H225848-07)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH/ |      |            |               |       |           |  |
|----------------|--------|-----------------|------------|------------------|------|------------|---------------|-------|-----------|--|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank     | BS   | % Recovery | True Value QC | RPD   | Qualifier |  |
| Benzene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.25  |           |  |
| Toluene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.41  |           |  |
| Ethylbenzene*  | <0.050 | 0.050           | 12/13/2022 | ND               | 2.17 | 109        | 2.00          | 0.453 |           |  |
| Total Xylenes* | <0.150 | 0.150           | 12/13/2022 | ND               | 6.66 | 111        | 6.00          | 0.413 |           |  |
| Total BTEX     | <0.300 | 0.300           | 12/13/2022 | ND               |      |            |               |       |           |  |

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.9-140

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: AC |     |            |               |      |           |  |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|--|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |  |
| Chloride             | 336    | 16.0            | 12/13/2022 | ND              | 400 | 100        | 400           | 3.92 |           |  |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |  |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|--|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |  |
| GRO C6-C10*      | <10.0  | 10.0            | 12/13/2022 | ND              | 222 | 111        | 200           | 0.145 |           |  |
| DRO >C10-C28*    | <10.0  | 10.0            | 12/13/2022 | ND              | 199 | 99.5       | 200           | 0.927 |           |  |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 12/13/2022 | ND              |     |            |               |       |           |  |

Surrogate: 1-Chlorooctane 67.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 72.0 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 12/12/2022         | Sampling Date:      | 12/12/2022       |
| Reported:         | 12/15/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | ** (See Notes)   |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - EDDY CO, NM  |                     |                  |

**Sample ID: B - 7 (19'-20') (H225848-08)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH/ |      |            |               |       |           |
|----------------|--------|-----------------|------------|------------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank     | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.25  |           |
| Toluene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.41  |           |
| Ethylbenzene*  | <0.050 | 0.050           | 12/13/2022 | ND               | 2.17 | 109        | 2.00          | 0.453 |           |
| Total Xylenes* | <0.150 | 0.150           | 12/13/2022 | ND               | 6.66 | 111        | 6.00          | 0.413 |           |
| Total BTEX     | <0.300 | 0.300           | 12/13/2022 | ND               |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 111 % 69.9-140

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: AC |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 176    | 16.0            | 12/13/2022 | ND              | 400 | 100        | 400           | 3.92 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 12/13/2022 | ND              | 222 | 111        | 200           | 0.145 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 12/13/2022 | ND              | 199 | 99.5       | 200           | 0.927 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 12/13/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 73.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 76.6 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 12/12/2022         | Sampling Date:      | 12/12/2022       |
| Reported:         | 12/15/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | ** (See Notes)   |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - EDDY CO, NM  |                     |                  |

**Sample ID: B - 7 (24'-25') (H225848-09)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH/ |      |            |               |       |           |
|----------------|--------|-----------------|------------|------------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank     | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.25  |           |
| Toluene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.41  |           |
| Ethylbenzene*  | <0.050 | 0.050           | 12/13/2022 | ND               | 2.17 | 109        | 2.00          | 0.453 |           |
| Total Xylenes* | <0.150 | 0.150           | 12/13/2022 | ND               | 6.66 | 111        | 6.00          | 0.413 |           |
| Total BTEX     | <0.300 | 0.300           | 12/13/2022 | ND               |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 106 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 128    | 16.0            | 12/13/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 12/13/2022 | ND              | 222 | 111        | 200           | 0.145 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 12/13/2022 | ND              | 199 | 99.5       | 200           | 0.927 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 12/13/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 69.2 % 45.3-161

Surrogate: 1-Chlorooctadecane 72.3 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 12/12/2022         | Sampling Date:      | 12/12/2022       |
| Reported:         | 12/15/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | ** (See Notes)   |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - EDDY CO, NM  |                     |                  |

**Sample ID: B - 7 (29'-30') (H225848-10)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH/ |      |            |               |       |           |
|----------------|--------|-----------------|------------|------------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank     | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.25  |           |
| Toluene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.41  |           |
| Ethylbenzene*  | <0.050 | 0.050           | 12/13/2022 | ND               | 2.17 | 109        | 2.00          | 0.453 |           |
| Total Xylenes* | <0.150 | 0.150           | 12/13/2022 | ND               | 6.66 | 111        | 6.00          | 0.413 |           |
| Total BTEX     | <0.300 | 0.300           | 12/13/2022 | ND               |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 107 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 128    | 16.0            | 12/13/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 12/13/2022 | ND              | 222 | 111        | 200           | 0.145 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 12/13/2022 | ND              | 199 | 99.5       | 200           | 0.927 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 12/13/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 73.1 % 45.3-161

Surrogate: 1-Chlorooctadecane 76.0 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 12/12/2022         | Sampling Date:      | 12/12/2022       |
| Reported:         | 12/15/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | ** (See Notes)   |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - EDDY CO, NM  |                     |                  |

**Sample ID: B - 8 (0-1') (H225848-11)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH/ |      |            |               |       |           |
|----------------|--------|-----------------|------------|------------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank     | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.25  |           |
| Toluene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.41  |           |
| Ethylbenzene*  | <0.050 | 0.050           | 12/13/2022 | ND               | 2.17 | 109        | 2.00          | 0.453 |           |
| Total Xylenes* | <0.150 | 0.150           | 12/13/2022 | ND               | 6.66 | 111        | 6.00          | 0.413 |           |
| Total BTEX     | <0.300 | 0.300           | 12/13/2022 | ND               |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 112 % 69.9-140

| Chloride, SM4500Cl-B |            | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|------------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result     | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| <b>Chloride</b>      | <b>752</b> | 16.0            | 12/13/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M               |             | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|-------------------------|-------------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte                 | Result      | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*             | <10.0       | 10.0            | 12/13/2022 | ND              | 222 | 111        | 200           | 0.145 |           |
| <b>DRO &gt;C10-C28*</b> | <b>45.2</b> | 10.0            | 12/13/2022 | ND              | 199 | 99.5       | 200           | 0.927 |           |
| EXT DRO >C28-C36        | <10.0       | 10.0            | 12/13/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 70.8 % 45.3-161

Surrogate: 1-Chlorooctadecane 75.6 % 46.3-178

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 12/12/2022         | Sampling Date:      | 12/12/2022       |
| Reported:         | 12/15/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | ** (See Notes)   |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - EDDY CO, NM  |                     |                  |

**Sample ID: B - 8 (2'-3') (H225848-12)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH/ |      |            |               |       |           |
|----------------|--------|-----------------|------------|------------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank     | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.25  |           |
| Toluene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.41  |           |
| Ethylbenzene*  | <0.050 | 0.050           | 12/13/2022 | ND               | 2.17 | 109        | 2.00          | 0.453 |           |
| Total Xylenes* | <0.150 | 0.150           | 12/13/2022 | ND               | 6.66 | 111        | 6.00          | 0.413 |           |
| Total BTEX     | <0.300 | 0.300           | 12/13/2022 | ND               |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 108 % 69.9-140

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 240    | 16.0            | 12/13/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 12/13/2022 | ND              | 222 | 111        | 200           | 0.145 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 12/13/2022 | ND              | 199 | 99.5       | 200           | 0.927 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 12/13/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 71.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 76.7 % 46.3-178

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PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 12/12/2022         | Sampling Date:      | 12/12/2022       |
| Reported:         | 12/15/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | ** (See Notes)   |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - EDDY CO, NM  |                     |                  |

**Sample ID: B - 8 (3'-4') (H225848-13)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH/ |      |            |               |       |           |
|----------------|--------|-----------------|------------|------------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank     | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.25  |           |
| Toluene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.41  |           |
| Ethylbenzene*  | <0.050 | 0.050           | 12/13/2022 | ND               | 2.17 | 109        | 2.00          | 0.453 |           |
| Total Xylenes* | <0.150 | 0.150           | 12/13/2022 | ND               | 6.66 | 111        | 6.00          | 0.413 |           |
| Total BTEX     | <0.300 | 0.300           | 12/13/2022 | ND               |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 108 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 368    | 16.0            | 12/13/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 12/13/2022 | ND              | 222 | 111        | 200           | 0.145 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 12/13/2022 | ND              | 199 | 99.5       | 200           | 0.927 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 12/13/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 76.7 % 45.3-161

Surrogate: 1-Chlorooctadecane 81.3 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 12/12/2022         | Sampling Date:      | 12/12/2022       |
| Reported:         | 12/15/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | ** (See Notes)   |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - EDDY CO, NM  |                     |                  |

**Sample ID: B - 8 (4'-5') (H225848-14)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH/ |      |            |               |       |           |
|----------------|--------|-----------------|------------|------------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank     | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.25  |           |
| Toluene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.41  |           |
| Ethylbenzene*  | <0.050 | 0.050           | 12/13/2022 | ND               | 2.17 | 109        | 2.00          | 0.453 |           |
| Total Xylenes* | <0.150 | 0.150           | 12/13/2022 | ND               | 6.66 | 111        | 6.00          | 0.413 |           |
| Total BTEX     | <0.300 | 0.300           | 12/13/2022 | ND               |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 108 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 336    | 16.0            | 12/13/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 12/13/2022 | ND              | 222 | 111        | 200           | 0.145 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 12/13/2022 | ND              | 199 | 99.5       | 200           | 0.927 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 12/13/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 78.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 82.8 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 12/12/2022         | Sampling Date:      | 12/12/2022       |
| Reported:         | 12/15/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | ** (See Notes)   |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - EDDY CO, NM  |                     |                  |

**Sample ID: B - 8 (6'-7') (H225848-15)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: JH/ |      |            |               |       |           |
|----------------|--------|-----------------|------------|------------------|------|------------|---------------|-------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank     | BS   | % Recovery | True Value QC | RPD   | Qualifier |
| Benzene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.25  |           |
| Toluene*       | <0.050 | 0.050           | 12/13/2022 | ND               | 2.23 | 112        | 2.00          | 1.41  |           |
| Ethylbenzene*  | <0.050 | 0.050           | 12/13/2022 | ND               | 2.17 | 109        | 2.00          | 0.453 |           |
| Total Xylenes* | <0.150 | 0.150           | 12/13/2022 | ND               | 6.66 | 111        | 6.00          | 0.413 |           |
| Total BTEX     | <0.300 | 0.300           | 12/13/2022 | ND               |      |            |               |       |           |

Surrogate: 4-Bromofluorobenzene (PID) 110 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 320    | 16.0            | 12/13/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 12/13/2022 | ND              | 222 | 111        | 200           | 0.145 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 12/13/2022 | ND              | 199 | 99.5       | 200           | 0.927 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 12/13/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 67.0 % 45.3-161

Surrogate: 1-Chlorooctadecane 68.8 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 12/12/2022         | Sampling Date:      | 12/12/2022       |
| Reported:         | 12/15/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | ** (See Notes)   |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - EDDY CO, NM  |                     |                  |

**Sample ID: B - 8 (8'-9') (H225848-16)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: MS |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 12/13/2022 | ND              | 2.22 | 111        | 2.00          | 1.83 |           |
| Toluene*       | <0.050 | 0.050           | 12/13/2022 | ND              | 2.23 | 112        | 2.00          | 1.89 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 12/13/2022 | ND              | 2.26 | 113        | 2.00          | 3.09 |           |
| Total Xylenes* | <0.150 | 0.150           | 12/13/2022 | ND              | 6.83 | 114        | 6.00          | 3.12 |           |
| Total BTEX     | <0.300 | 0.300           | 12/13/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 113 % 69.9-140

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 256    | 16.0            | 12/13/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 12/13/2022 | ND              | 222 | 111        | 200           | 0.145 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 12/13/2022 | ND              | 199 | 99.5       | 200           | 0.927 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 12/13/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 66.4 % 45.3-161

Surrogate: 1-Chlorooctadecane 71.1 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 12/12/2022         | Sampling Date:      | 12/12/2022       |
| Reported:         | 12/15/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | ** (See Notes)   |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - EDDY CO, NM  |                     |                  |

**Sample ID: B - 8 (14'-15') (H225848-17)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: MS |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 12/13/2022 | ND              | 2.22 | 111        | 2.00          | 1.83 |           |
| Toluene*       | <0.050 | 0.050           | 12/13/2022 | ND              | 2.23 | 112        | 2.00          | 1.89 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 12/13/2022 | ND              | 2.26 | 113        | 2.00          | 3.09 |           |
| Total Xylenes* | <0.150 | 0.150           | 12/13/2022 | ND              | 6.83 | 114        | 6.00          | 3.12 |           |
| Total BTEX     | <0.300 | 0.300           | 12/13/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 111 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 320    | 16.0            | 12/13/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 12/13/2022 | ND              | 197 | 98.6       | 200           | 0.758 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 12/13/2022 | ND              | 204 | 102        | 200           | 0.639 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 12/13/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 60.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 65.5 % 46.3-178

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**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 12/12/2022         | Sampling Date:      | 12/12/2022       |
| Reported:         | 12/15/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | ** (See Notes)   |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - EDDY CO, NM  |                     |                  |

**Sample ID: B - 8 (19'-20') (H225848-18)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: MS |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 12/13/2022 | ND              | 2.22 | 111        | 2.00          | 1.83 |           |
| Toluene*       | <0.050 | 0.050           | 12/13/2022 | ND              | 2.23 | 112        | 2.00          | 1.89 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 12/13/2022 | ND              | 2.26 | 113        | 2.00          | 3.09 |           |
| Total Xylenes* | <0.150 | 0.150           | 12/13/2022 | ND              | 6.83 | 114        | 6.00          | 3.12 |           |
| Total BTEX     | <0.300 | 0.300           | 12/13/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 111 % 69.9-140

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 176    | 16.0            | 12/13/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |       |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|-------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD   | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 12/13/2022 | ND              | 197 | 98.6       | 200           | 0.758 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 12/13/2022 | ND              | 204 | 102        | 200           | 0.639 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 12/13/2022 | ND              |     |            |               |       |           |

Surrogate: 1-Chlorooctane 81.5 % 45.3-161

Surrogate: 1-Chlorooctadecane 87.4 % 46.3-178

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 12/12/2022         | Sampling Date:      | 12/12/2022       |
| Reported:         | 12/15/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | ** (See Notes)   |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - EDDY CO, NM  |                     |                  |

**Sample ID: B - 8 (24'-25') (H225848-19)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: MS |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 12/13/2022 | ND              | 2.22 | 111        | 2.00          | 1.83 |           |
| Toluene*       | <0.050 | 0.050           | 12/13/2022 | ND              | 2.23 | 112        | 2.00          | 1.89 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 12/13/2022 | ND              | 2.26 | 113        | 2.00          | 3.09 |           |
| Total Xylenes* | <0.150 | 0.150           | 12/13/2022 | ND              | 6.83 | 114        | 6.00          | 3.12 |           |
| Total BTEX     | <0.300 | 0.300           | 12/13/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 111 % 69.9-140

| Chloride, SM4500Cl-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 672    | 16.0            | 12/13/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 12/13/2022 | ND              | 199 | 99.3       | 200           | 2.06 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 12/13/2022 | ND              | 217 | 108        | 200           | 1.24 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 12/13/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 99.6 % 45.3-161

Surrogate: 1-Chlorooctadecane 102 % 46.3-178

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

**Analytical Results For:**

TETRA TECH  
 CHRISTIAN LLULL  
 901 WEST WALL STREET , STE 100  
 MIDLAND TX, 79701  
 Fax To: (432) 682-3946

|                   |                    |                     |                  |
|-------------------|--------------------|---------------------|------------------|
| Received:         | 12/12/2022         | Sampling Date:      | 12/12/2022       |
| Reported:         | 12/15/2022         | Sampling Type:      | Soil             |
| Project Name:     | JAMES A WATERFLOOD | Sampling Condition: | ** (See Notes)   |
| Project Number:   | 212C-MD-02792      | Sample Received By: | Shalyn Rodriguez |
| Project Location: | COP - EDDY CO, NM  |                     |                  |

**Sample ID: B - 8 (29'-30') (H225848-20)**

| BTEX 8021B     |        | mg/kg           |            | Analyzed By: MS |      |            |               |      |           |
|----------------|--------|-----------------|------------|-----------------|------|------------|---------------|------|-----------|
| Analyte        | Result | Reporting Limit | Analyzed   | Method Blank    | BS   | % Recovery | True Value QC | RPD  | Qualifier |
| Benzene*       | <0.050 | 0.050           | 12/13/2022 | ND              | 2.22 | 111        | 2.00          | 1.83 |           |
| Toluene*       | <0.050 | 0.050           | 12/13/2022 | ND              | 2.23 | 112        | 2.00          | 1.89 |           |
| Ethylbenzene*  | <0.050 | 0.050           | 12/13/2022 | ND              | 2.26 | 113        | 2.00          | 3.09 |           |
| Total Xylenes* | <0.150 | 0.150           | 12/13/2022 | ND              | 6.83 | 114        | 6.00          | 3.12 |           |
| Total BTEX     | <0.300 | 0.300           | 12/13/2022 | ND              |      |            |               |      |           |

Surrogate: 4-Bromofluorobenzene (PID) 113 % 69.9-140

| Chloride, SM4500CI-B |        | mg/kg           |            | Analyzed By: GM |     |            |               |      |           |
|----------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte              | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| Chloride             | 624    | 16.0            | 12/13/2022 | ND              | 416 | 104        | 400           | 0.00 |           |

| TPH 8015M        |        | mg/kg           |            | Analyzed By: MS |     |            |               |      |           |
|------------------|--------|-----------------|------------|-----------------|-----|------------|---------------|------|-----------|
| Analyte          | Result | Reporting Limit | Analyzed   | Method Blank    | BS  | % Recovery | True Value QC | RPD  | Qualifier |
| GRO C6-C10*      | <10.0  | 10.0            | 12/13/2022 | ND              | 199 | 99.3       | 200           | 2.06 |           |
| DRO >C10-C28*    | <10.0  | 10.0            | 12/13/2022 | ND              | 217 | 108        | 200           | 1.24 |           |
| EXT DRO >C28-C36 | <10.0  | 10.0            | 12/13/2022 | ND              |     |            |               |      |           |

Surrogate: 1-Chlorooctane 91.9 % 45.3-161

Surrogate: 1-Chlorooctadecane 94.2 % 46.3-178

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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
\*\* Samples not received at proper temperature of 6°C or below.
\*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



101 East Marland, Hobbs, NM 88240  
(575) 393-2326 FAX (575) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1/5/23  
CR

BILL TO

ANALYSIS REQUEST

Company Name: Conce Phillips  
 Project Manager: Christina Hill  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Phone #: \_\_\_\_\_ Fax #: \_\_\_\_\_  
 Project #: 202-MD-02292 Project Owner: \_\_\_\_\_  
 Project Name: James A Water Flood  
 Project Location: Edley County, NM  
 Sampler Name: Colleen Bitzerhoff  
 P.O. #: \_\_\_\_\_ Company: Tetra Tech  
 Attn: Christina Hill  
 Address: by email  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
 Phone #: \_\_\_\_\_ Fax #: \_\_\_\_\_

| Lab I.D. | Sample I.D.  | (G)RAB OR (C)OMP. | # CONTAINERS | MATRIX      |            |      |     |        |         | DATE | TIME | TPH | BTEX | Chlorides |
|----------|--------------|-------------------|--------------|-------------|------------|------|-----|--------|---------|------|------|-----|------|-----------|
|          |              |                   |              | GROUNDWATER | WASTEWATER | SOIL | OIL | SLUDGE | OTHER : |      |      |     |      |           |
| 1        | B-7 (0-1')   | G                 | 1            |             |            | X    |     |        |         |      | X    | X   | X    |           |
| 2        | B-7 (2-3')   |                   |              |             |            |      |     |        |         |      |      |     |      |           |
| 3        | B-7 (3-4')   |                   |              |             |            |      |     |        |         |      |      |     |      |           |
| 4        | B-7 (4-5')   |                   |              |             |            |      |     |        |         |      |      |     |      |           |
| 5        | B-7 (6-7')   |                   |              |             |            |      |     |        |         |      |      |     |      |           |
| 6        | B-7 (8-9')   |                   |              |             |            |      |     |        |         |      |      |     |      |           |
| 7        | B-7 (14-15') |                   |              |             |            |      |     |        |         |      |      |     |      |           |
| 8        | B-7 (19-20') |                   |              |             |            |      |     |        |         |      |      |     |      |           |
| 9        | B-7 (24-25') |                   |              |             |            |      |     |        |         |      |      |     |      |           |
| 10       | B-7 (29-30') |                   |              |             |            |      |     |        |         |      |      |     |      |           |

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Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Received By: \_\_\_\_\_  
 Time: \_\_\_\_\_ Date: \_\_\_\_\_  
 Relinquished By: \_\_\_\_\_ Date: \_\_\_\_\_ Received By: \_\_\_\_\_  
 Time: \_\_\_\_\_ Date: \_\_\_\_\_

Delivered By: (Circle One) Observed Temp. °C 23.2d Sample Condition  Intact  Cool  Intact  Yes  No  
 Corrected Temp. °C 21.4d Checked By: \_\_\_\_\_ (initials)  
 Sampler - UPS - Bus - Other: \_\_\_\_\_

Turnaround Time: \_\_\_\_\_ Standard  Rush   
 Thermometer ID #113 Correction Factor 0.0c Bacteria (only)  Cool  Intact  Yes  No  
 Observed Temp. °C \_\_\_\_\_ Corrected Temp. °C \_\_\_\_\_  
 Verbal Result:  Yes  No Add'l Phone #: \_\_\_\_\_  
 All Results are emailed. Please provide Email address: \_\_\_\_\_  
 REMARKS: Christina Hill@tetratech.com





Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Kalei Jennings  
 Ensolum  
 601 N. Marienfeld St.  
 Suite 400  
 Midland, Texas 79701

Generated 12/19/2022 4:40:31 PM

## JOB DESCRIPTION

James A Waterflood  
 SDG NUMBER Lea County NM

## JOB NUMBER

890-3603-1

Eurofins Carlsbad  
 1089 N Canal St.  
 Carlsbad NM 88220



# Eurofins Carlsbad

## Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

## Authorization



Generated  
12/19/2022 4:40:31 PM

Authorized for release by  
Jessica Kramer, Project Manager  
[Jessica.Kramer@et.eurofinsus.com](mailto:Jessica.Kramer@et.eurofinsus.com)  
(432)704-5440

Client: Ensolum  
Project/Site: James A Waterflood

Laboratory Job ID: 890-3603-1  
SDG: Lea County NM

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## Definitions/Glossary

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3603-1  
SDG: Lea County NM

## Qualifiers

## GC VOA

| Qualifier | Qualifier Description                                    |
|-----------|--|
| F1        | MS and/or MSD recovery exceeds control limits.           |
| F2        | MS/MSD RPD exceeds control limits                        |
| U         | Indicates the analyte was analyzed for but not detected. |

## GC Semi VOA

| Qualifier | Qualifier Description                                    |
|-----------|--|
| *1        | LCS/LCSD RPD exceeds control limits.                     |
| S1+       | Surrogate recovery exceeds control limits, high biased.  |
| U         | Indicates the analyte was analyzed for but not detected. |

## HPLC/IC

| Qualifier | Qualifier Description                                    |
|-----------|--|
| U         | Indicates the analyte was analyzed for but not detected. |

## Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| α              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CFU            | Colony Forming Unit   |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MCL            | EPA recommended "Maximum Contaminant Level"   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| MPN            | Most Probable Number  |
| MQL            | Method Quantitation Limit   |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| NEG            | Negative / Absent   |
| POS            | Positive / Present  |
| PQL            | Practical Quantitation Limit  |
| PRES           | Presumptive   |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |
| TNTC           | Too Numerous To Count   |

### Case Narrative

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3603-1  
SDG: Lea County NM

---

**Job ID: 890-3603-1**

---

**Laboratory: Eurofins Carlsbad****Narrative****Job Narrative  
890-3603-1****Receipt**

The samples were received on 12/8/2022 11:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

**Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: BH06 (890-3603-1) and BH06 (890-3603-2).

**GC VOA**

Method 8021B: The following samples were diluted due to the nature of the sample matrix: (890-3601-A-1-C MS) and (890-3601-A-1-D MSD). Because of this dilution, the surrogate spike and matrix spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

**GC Semi VOA**

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-41625 and analytical batch 880-41693 was outside the upper control limits.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-41693/5) and (LCS 880-41625/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD\_NM: The method blank for preparation batch 880-41625 and analytical batch 880-41693 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD\_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-41625 and analytical batch 880-41693 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

**HPLC/IC**

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.



### Client Sample Results

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3603-1  
SDG: Lea County NM

**Client Sample ID: BH06**

**Lab Sample ID: 890-3603-1**

Date Collected: 12/06/22 15:00

Matrix: Solid

Date Received: 12/08/22 11:20

Sample Depth: 1

**Method: SW846 8021B - Volatile Organic Compounds (GC)**

| Analyte             | Result   | Qualifier | RL      | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|----------|-----------|---------|-------|---|----------------|----------------|---------|
| Benzene             | <0.00199 | U         | 0.00199 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 10:11 | 1       |
| Toluene             | <0.00199 | U         | 0.00199 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 10:11 | 1       |
| Ethylbenzene        | <0.00199 | U         | 0.00199 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 10:11 | 1       |
| m-Xylene & p-Xylene | <0.00398 | U         | 0.00398 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 10:11 | 1       |
| o-Xylene            | <0.00199 | U         | 0.00199 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 10:11 | 1       |
| Xylenes, Total      | <0.00398 | U         | 0.00398 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 10:11 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 116       |           | 70 - 130 | 12/15/22 15:22 | 12/17/22 10:11 | 1       |
| 1,4-Difluorobenzene (Surr)  | 100       |           | 70 - 130 | 12/15/22 15:22 | 12/17/22 10:11 | 1       |

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

| Analyte    | Result   | Qualifier | RL      | Unit  | D | Prepared | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-------|---|----------|----------------|---------|
| Total BTEX | <0.00398 | U         | 0.00398 | mg/Kg |   |          | 12/19/22 16:21 | 1       |

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

| Analyte   | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Total TPH | <50.0  | U         | 50.0 | mg/Kg |   |          | 12/14/22 12:15 | 1       |

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

| Analyte                              | Result | Qualifier | RL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|--------|-----------|------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0  | U         | 50.0 | mg/Kg |   | 12/12/22 11:00 | 12/13/22 16:06 | 1       |
| Diesel Range Organics (Over C10-C28) | <50.0  | U *1      | 50.0 | mg/Kg |   | 12/12/22 11:00 | 12/13/22 16:06 | 1       |
| Oil Range Organics (Over C28-C36)    | <50.0  | U         | 50.0 | mg/Kg |   | 12/12/22 11:00 | 12/13/22 16:06 | 1       |

| Surrogate      | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------|-----------|-----------|----------|----------------|----------------|---------|
| 1-Chlorooctane | 95        |           | 70 - 130 | 12/12/22 11:00 | 12/13/22 16:06 | 1       |
| o-Terphenyl    | 99        |           | 70 - 130 | 12/12/22 11:00 | 12/13/22 16:06 | 1       |

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

| Analyte  | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Chloride | 146    |           | 5.01 | mg/Kg |   |          | 12/14/22 10:03 | 1       |

**Client Sample ID: BH06**

**Lab Sample ID: 890-3603-2**

Date Collected: 12/06/22 15:30

Matrix: Solid

Date Received: 12/08/22 11:20

Sample Depth: 4

**Method: SW846 8021B - Volatile Organic Compounds (GC)**

| Analyte             | Result   | Qualifier | RL      | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|----------|-----------|---------|-------|---|----------------|----------------|---------|
| Benzene             | <0.00200 | U         | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 13:40 | 1       |
| Toluene             | <0.00200 | U         | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 13:40 | 1       |
| Ethylbenzene        | <0.00200 | U         | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 13:40 | 1       |
| m-Xylene & p-Xylene | <0.00399 | U         | 0.00399 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 13:40 | 1       |
| o-Xylene            | <0.00200 | U         | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 13:40 | 1       |
| Xylenes, Total      | <0.00399 | U         | 0.00399 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 13:40 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 99        |           | 70 - 130 | 12/15/22 15:22 | 12/17/22 13:40 | 1       |

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### Client Sample Results

Client: Ensolum  
 Project/Site: James A Waterflood

Job ID: 890-3603-1  
 SDG: Lea County NM

**Client Sample ID: BH06**

**Lab Sample ID: 890-3603-2**

Date Collected: 12/06/22 15:30

Matrix: Solid

Date Received: 12/08/22 11:20

Sample Depth: 4

**Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)**

| Surrogate                  | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 1,4-Difluorobenzene (Surr) | 94        |           | 70 - 130 | 12/15/22 15:22 | 12/17/22 13:40 | 1       |

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

| Analyte    | Result   | Qualifier | RL      | Unit  | D | Prepared | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-------|---|----------|----------------|---------|
| Total BTEX | <0.00399 | U         | 0.00399 | mg/Kg |   |          | 12/19/22 16:21 | 1       |

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

| Analyte   | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Total TPH | <50.0  | U         | 50.0 | mg/Kg |   |          | 12/14/22 12:15 | 1       |

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

| Analyte                              | Result | Qualifier | RL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|--------|-----------|------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0  | U         | 50.0 | mg/Kg |   | 12/12/22 11:00 | 12/13/22 16:28 | 1       |
| Diesel Range Organics (Over C10-C28) | <50.0  | U *1      | 50.0 | mg/Kg |   | 12/12/22 11:00 | 12/13/22 16:28 | 1       |
| Oil Range Organics (Over C28-C36)    | <50.0  | U         | 50.0 | mg/Kg |   | 12/12/22 11:00 | 12/13/22 16:28 | 1       |

| Surrogate      | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------|-----------|-----------|----------|----------------|----------------|---------|
| 1-Chlorooctane | 102       |           | 70 - 130 | 12/12/22 11:00 | 12/13/22 16:28 | 1       |
| o-Terphenyl    | 103       |           | 70 - 130 | 12/12/22 11:00 | 12/13/22 16:28 | 1       |

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

| Analyte  | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Chloride | 171    |           | 4.99 | mg/Kg |   |          | 12/14/22 10:23 | 1       |

## Surrogate Summary

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3603-1  
SDG: Lea County NM

## Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

| Lab Sample ID      | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |                   |
|--------------------|------------------------|--|-------------------|
|                    |                        | BFB1<br>(70-130)                               | DFBZ1<br>(70-130) |
| 890-3601-A-1-C MS  | Matrix Spike           | 85   | 92                |
| 890-3601-A-1-D MSD | Matrix Spike Duplicate | 86   | 89                |
| 890-3603-1         | BH06                   | 116  | 100               |
| 890-3603-2         | BH06                   | 99   | 94                |
| LCS 880-41943/1-A  | Lab Control Sample     | 97   | 95                |
| LCSD 880-41943/2-A | Lab Control Sample Dup | 94   | 94                |
| MB 880-41938/5-A   | Method Blank           | 92   | 93                |
| MB 880-41943/5-A   | Method Blank           | 97   | 90                |

**Surrogate Legend**

BFB = 4-Bromofluorobenzene (Surr)  
DFBZ = 1,4-Difluorobenzene (Surr)

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

| Lab Sample ID       | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |                   |
|---------------------|------------------------|--|-------------------|
|                     |                        | 1CO1<br>(70-130)                               | OTPH1<br>(70-130) |
| 880-22478-A-1-E MS  | Matrix Spike           | 125  | 104               |
| 880-22478-A-1-F MSD | Matrix Spike Duplicate | 127  | 106               |
| 890-3603-1          | BH06                   | 95   | 99                |
| 890-3603-2          | BH06                   | 102  | 103               |
| LCS 880-41625/2-A   | Lab Control Sample     | 165 S1+  | 162 S1+           |
| LCSD 880-41625/3-A  | Lab Control Sample Dup | 127  | 128               |
| MB 880-41625/1-A    | Method Blank           | 148 S1+  | 209 S1+           |

**Surrogate Legend**

1CO = 1-Chlorooctane  
OTPH = o-Terphenyl

### QC Sample Results

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3603-1  
SDG: Lea County NM

#### Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-41938/5-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 41938

| Analyte             | MB Result | MB Qualifier | RL      | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|-----------|--------------|---------|-------|---|----------------|----------------|---------|
| Benzene             | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| Toluene             | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| Ethylbenzene        | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| m-Xylene & p-Xylene | <0.00400  | U            | 0.00400 | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| o-Xylene            | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| Xylenes, Total      | <0.00400  | U            | 0.00400 | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |

| Surrogate                   | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|--------------|--------------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 92           |              | 70 - 130 | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| 1,4-Difluorobenzene (Surr)  | 93           |              | 70 - 130 | 12/15/22 14:55 | 12/16/22 22:04 | 1       |

Lab Sample ID: MB 880-41943/5-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte             | MB Result | MB Qualifier | RL      | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|-----------|--------------|---------|-------|---|----------------|----------------|---------|
| Benzene             | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| Toluene             | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| Ethylbenzene        | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| m-Xylene & p-Xylene | <0.00400  | U            | 0.00400 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| o-Xylene            | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| Xylenes, Total      | <0.00400  | U            | 0.00400 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |

| Surrogate                   | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|--------------|--------------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 97           |              | 70 - 130 | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| 1,4-Difluorobenzene (Surr)  | 90           |              | 70 - 130 | 12/15/22 15:22 | 12/17/22 08:47 | 1       |

Lab Sample ID: LCS 880-41943/1-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte             | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec Limits |
|---------------------|-------------|------------|---------------|-------|---|------|-------------|
| Benzene             | 0.100       | 0.09030    |               | mg/Kg |   | 90   | 70 - 130    |
| Toluene             | 0.100       | 0.08409    |               | mg/Kg |   | 84   | 70 - 130    |
| Ethylbenzene        | 0.100       | 0.07938    |               | mg/Kg |   | 79   | 70 - 130    |
| m-Xylene & p-Xylene | 0.200       | 0.1705     |               | mg/Kg |   | 85   | 70 - 130    |
| o-Xylene            | 0.100       | 0.08759    |               | mg/Kg |   | 88   | 70 - 130    |

| Surrogate                   | LCS %Recovery | LCS Qualifier | Limits   |
|-----------------------------|---------------|---------------|----------|
| 4-Bromofluorobenzene (Surr) | 97            |               | 70 - 130 |
| 1,4-Difluorobenzene (Surr)  | 95            |               | 70 - 130 |

Lab Sample ID: LCSD 880-41943/2-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---------|-------------|-------------|----------------|-------|---|------|-------------|-----|-----------|
| Benzene | 0.100       | 0.09270     |                | mg/Kg |   | 93   | 70 - 130    | 3   | 35        |

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### QC Sample Results

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3603-1  
SDG: Lea County NM

#### Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-41943/2-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte             | Spike Added | LCSD Result | LCSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---------------------|-------------|-------------|----------------|-------|---|------|-------------|-----|-----------|
| Toluene             | 0.100       | 0.08517     |                | mg/Kg |   | 85   | 70 - 130    | 1   | 35        |
| Ethylbenzene        | 0.100       | 0.07903     |                | mg/Kg |   | 79   | 70 - 130    | 0   | 35        |
| m-Xylene & p-Xylene | 0.200       | 0.1679      |                | mg/Kg |   | 84   | 70 - 130    | 2   | 35        |
| o-Xylene            | 0.100       | 0.08660     |                | mg/Kg |   | 87   | 70 - 130    | 1   | 35        |

| Surrogate                   | LCSD %Recovery | LCSD Qualifier | LCSD Limits |
|-----------------------------|----------------|----------------|-------------|
| 4-Bromofluorobenzene (Surr) | 94             |                | 70 - 130    |
| 1,4-Difluorobenzene (Surr)  | 94             |                | 70 - 130    |

Lab Sample ID: 890-3601-A-1-C MS  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte             | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit  | D | %Rec | %Rec Limits |
|---------------------|---------------|------------------|-------------|-----------|--------------|-------|---|------|-------------|
| Benzene             | <0.00200      | U F2 F1          | 0.100       | <0.00200  | U F1         | mg/Kg |   | 1    | 70 - 130    |
| Toluene             | <0.00200      | U F1             | 0.100       | <0.00200  | U F1         | mg/Kg |   | 0.6  | 70 - 130    |
| Ethylbenzene        | <0.00200      | U F1             | 0.100       | <0.00200  | U F1         | mg/Kg |   | 0    | 70 - 130    |
| m-Xylene & p-Xylene | <0.00401      | U F1             | 0.200       | <0.00401  | U F1         | mg/Kg |   | 0.6  | 70 - 130    |
| o-Xylene            | <0.00200      | U F1             | 0.100       | <0.00200  | U F1         | mg/Kg |   | 0.5  | 70 - 130    |

| Surrogate                   | MS %Recovery | MS Qualifier | MS Limits |
|-----------------------------|--------------|--------------|-----------|
| 4-Bromofluorobenzene (Surr) | 85           |              | 70 - 130  |
| 1,4-Difluorobenzene (Surr)  | 92           |              | 70 - 130  |

Lab Sample ID: 890-3601-A-1-D MSD  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte             | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---------------------|---------------|------------------|-------------|------------|---------------|-------|---|------|-------------|-----|-----------|
| Benzene             | <0.00200      | U F2 F1          | 0.0996      | <0.00199   | U F2 F1       | mg/Kg |   | 0.4  | 70 - 130    | 113 | 35        |
| Toluene             | <0.00200      | U F1             | 0.0996      | <0.00199   | U F1          | mg/Kg |   | 0    | 70 - 130    | NC  | 35        |
| Ethylbenzene        | <0.00200      | U F1             | 0.0996      | <0.00199   | U F1          | mg/Kg |   | 0    | 70 - 130    | NC  | 35        |
| m-Xylene & p-Xylene | <0.00401      | U F1             | 0.199       | <0.00398   | U F1          | mg/Kg |   | 0    | 70 - 130    | NC  | 35        |
| o-Xylene            | <0.00200      | U F1             | 0.0996      | <0.00199   | U F1          | mg/Kg |   | 0    | 70 - 130    | NC  | 35        |

| Surrogate                   | MSD %Recovery | MSD Qualifier | MSD Limits |
|-----------------------------|---------------|---------------|------------|
| 4-Bromofluorobenzene (Surr) | 86            |               | 70 - 130   |
| 1,4-Difluorobenzene (Surr)  | 89            |               | 70 - 130   |

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-41625/1-A  
Matrix: Solid  
Analysis Batch: 41693

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 41625

| Analyte                              | MB Result | MB Qualifier | RL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|-----------|--------------|------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0     | U            | 50.0 | mg/Kg |   | 12/12/22 11:00 | 12/13/22 08:06 | 1       |

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### QC Sample Results

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3603-1  
SDG: Lea County NM

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

**Lab Sample ID: MB 880-41625/1-A**  
**Matrix: Solid**  
**Analysis Batch: 41693**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 41625**

| Analyte                              | MB     | MB        | RL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|--------|-----------|------|-------|---|----------------|----------------|---------|
|                                      | Result | Qualifier |      |       |   |                |                |         |
| Diesel Range Organics (Over C10-C28) | <50.0  | U         | 50.0 | mg/Kg |   | 12/12/22 11:00 | 12/13/22 08:06 | 1       |
| Oil Range Organics (Over C28-C36)    | <50.0  | U         | 50.0 | mg/Kg |   | 12/12/22 11:00 | 12/13/22 08:06 | 1       |

| Surrogate      | MB        | MB        | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------|-----------|-----------|----------|----------------|----------------|---------|
|                | %Recovery | Qualifier |          |                |                |         |
| 1-Chlorooctane | 148       | S1+       | 70 - 130 | 12/12/22 11:00 | 12/13/22 08:06 | 1       |
| o-Terphenyl    | 209       | S1+       | 70 - 130 | 12/12/22 11:00 | 12/13/22 08:06 | 1       |

**Lab Sample ID: LCS 880-41625/2-A**  
**Matrix: Solid**  
**Analysis Batch: 41693**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 41625**

| Analyte                              | Spike Added | LCS Result | LCS Qualifier | Unit | D   | %Rec     | Limits |
|--------------------------------------|-------------|------------|---------------|------|-----|----------|--------|
|                                      |             |            |               |      |     |          |        |
| Diesel Range Organics (Over C10-C28) | 1000        | 1175       | mg/Kg         |      | 118 | 70 - 130 |        |

| Surrogate      | LCS       | LCS       | Limits   |
|----------------|-----------|-----------|----------|
|                | %Recovery | Qualifier |          |
| 1-Chlorooctane | 165       | S1+       | 70 - 130 |
| o-Terphenyl    | 162       | S1+       | 70 - 130 |

**Lab Sample ID: LCSD 880-41625/3-A**  
**Matrix: Solid**  
**Analysis Batch: 41693**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 41625**

| Analyte                              | Spike Added | LCSD Result | LCSD Qualifier | Unit  | D | %Rec | Limits   | RPD | Limit |
|--------------------------------------|-------------|-------------|----------------|-------|---|------|----------|-----|-------|
|                                      |             |             |                |       |   |      |          |     |       |
| Diesel Range Organics (Over C10-C28) | 1000        | 925.4       | *1             | mg/Kg |   | 93   | 70 - 130 | 24  | 20    |

| Surrogate      | LCSD      | LCSD      | Limits   |
|----------------|-----------|-----------|----------|
|                | %Recovery | Qualifier |          |
| 1-Chlorooctane | 127       |           | 70 - 130 |
| o-Terphenyl    | 128       |           | 70 - 130 |

**Lab Sample ID: 880-22478-A-1-E MS**  
**Matrix: Solid**  
**Analysis Batch: 41693**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 41625**

| Analyte                              | Sample | Sample    | Spike Added | MS Result | MS Qualifier | Unit | D   | %Rec     | Limits |
|--------------------------------------|--------|-----------|-------------|-----------|--------------|------|-----|----------|--------|
|                                      | Result | Qualifier |             |           |              |      |     |          |        |
| Gasoline Range Organics (GRO)-C6-C10 | <50.0  | U         | 999         | 1156      | mg/Kg        |      | 113 | 70 - 130 |        |
| Diesel Range Organics (Over C10-C28) | <50.0  | U *1      | 999         | 1148      | mg/Kg        |      | 113 | 70 - 130 |        |

| Surrogate      | MS        | MS        | Limits   |
|----------------|-----------|-----------|----------|
|                | %Recovery | Qualifier |          |
| 1-Chlorooctane | 125       |           | 70 - 130 |
| o-Terphenyl    | 104       |           | 70 - 130 |

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### QC Sample Results

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3603-1  
SDG: Lea County NM

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 880-22478-A-1-F MSD  
Matrix: Solid  
Analysis Batch: 41693

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 41625

| Analyte                              | Sample Result    | Sample Qualifier     | Spike Added | MSD Result | MSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit     |
|--------------------------------------|------------------|----------------------|-------------|------------|---------------|-------|---|------|-------------|-----|---------------|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0            | U                    | 997         | 1120       |               | mg/Kg |   | 109  | 70 - 130    | 3   | 20            |
| Diesel Range Organics (Over C10-C28) | <50.0            | U *1                 | 997         | 1190       |               | mg/Kg |   | 117  | 70 - 130    | 4   | 20            |
| <b>Surrogate</b>                     | <b>%Recovery</b> | <b>MSD Qualifier</b> |             |            |               |       |   |      |             |     | <b>Limits</b> |
| 1-Chlorooctane                       | 127              |                      |             |            |               |       |   |      |             |     | 70 - 130      |
| o-Terphenyl                          | 106              |                      |             |            |               |       |   |      |             |     | 70 - 130      |

#### Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41471/1-A  
Matrix: Solid  
Analysis Batch: 41738

Client Sample ID: Method Blank  
Prep Type: Soluble

| Analyte  | MB Result | MB Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|------|-------|---|----------|----------------|---------|
| Chloride | <5.00     | U            | 5.00 | mg/Kg |   |          | 12/14/22 08:09 | 1       |

Lab Sample ID: LCS 880-41471/2-A  
Matrix: Solid  
Analysis Batch: 41738

Client Sample ID: Lab Control Sample  
Prep Type: Soluble

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec Limits |
|----------|-------------|------------|---------------|-------|---|------|-------------|
| Chloride | 250         | 254.3      |               | mg/Kg |   | 102  | 90 - 110    |

Lab Sample ID: LCSD 880-41471/3-A  
Matrix: Solid  
Analysis Batch: 41738

Client Sample ID: Lab Control Sample Dup  
Prep Type: Soluble

| Analyte  | Spike Added | LCSD Result | LCSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|----------|-------------|-------------|----------------|-------|---|------|-------------|-----|-----------|
| Chloride | 250         | 268.2       |                | mg/Kg |   | 107  | 90 - 110    | 5   | 20        |

Lab Sample ID: 890-3603-1 MS  
Matrix: Solid  
Analysis Batch: 41738

Client Sample ID: BH06  
Prep Type: Soluble

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit  | D | %Rec | %Rec Limits |
|----------|---------------|------------------|-------------|-----------|--------------|-------|---|------|-------------|
| Chloride | 146           |                  | 251         | 401.1     |              | mg/Kg |   | 102  | 90 - 110    |

Lab Sample ID: 890-3603-1 MSD  
Matrix: Solid  
Analysis Batch: 41738

Client Sample ID: BH06  
Prep Type: Soluble

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|----------|---------------|------------------|-------------|------------|---------------|-------|---|------|-------------|-----|-----------|
| Chloride | 146           |                  | 251         | 406.4      |               | mg/Kg |   | 104  | 90 - 110    | 1   | 20        |

Eurofins Carlsbad

## QC Association Summary

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3603-1  
SDG: Lea County NM

## GC VOA

## Prep Batch: 41938

| Lab Sample ID    | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|------------------|-----------|--------|--------|------------|
| MB 880-41938/5-A | Method Blank     | Total/NA  | Solid  | 5035   |            |

## Prep Batch: 41943

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3603-1         | BH06                   | Total/NA  | Solid  | 5035   |            |
| 890-3603-2         | BH06                   | Total/NA  | Solid  | 5035   |            |
| MB 880-41943/5-A   | Method Blank           | Total/NA  | Solid  | 5035   |            |
| LCS 880-41943/1-A  | Lab Control Sample     | Total/NA  | Solid  | 5035   |            |
| LCSD 880-41943/2-A | Lab Control Sample Dup | Total/NA  | Solid  | 5035   |            |
| 890-3601-A-1-C MS  | Matrix Spike           | Total/NA  | Solid  | 5035   |            |
| 890-3601-A-1-D MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 5035   |            |

## Analysis Batch: 41993

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3603-1         | BH06                   | Total/NA  | Solid  | 8021B  | 41943      |
| 890-3603-2         | BH06                   | Total/NA  | Solid  | 8021B  | 41943      |
| MB 880-41938/5-A   | Method Blank           | Total/NA  | Solid  | 8021B  | 41938      |
| MB 880-41943/5-A   | Method Blank           | Total/NA  | Solid  | 8021B  | 41943      |
| LCS 880-41943/1-A  | Lab Control Sample     | Total/NA  | Solid  | 8021B  | 41943      |
| LCSD 880-41943/2-A | Lab Control Sample Dup | Total/NA  | Solid  | 8021B  | 41943      |
| 890-3601-A-1-C MS  | Matrix Spike           | Total/NA  | Solid  | 8021B  | 41943      |
| 890-3601-A-1-D MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8021B  | 41943      |

## Analysis Batch: 42248

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method     | Prep Batch |
|---------------|------------------|-----------|--------|------------|------------|
| 890-3603-1    | BH06             | Total/NA  | Solid  | Total BTEX |            |
| 890-3603-2    | BH06             | Total/NA  | Solid  | Total BTEX |            |

## GC Semi VOA

## Prep Batch: 41625

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method      | Prep Batch |
|---------------------|------------------------|-----------|--------|-------------|------------|
| 890-3603-1          | BH06                   | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3603-2          | BH06                   | Total/NA  | Solid  | 8015NM Prep |            |
| MB 880-41625/1-A    | Method Blank           | Total/NA  | Solid  | 8015NM Prep |            |
| LCS 880-41625/2-A   | Lab Control Sample     | Total/NA  | Solid  | 8015NM Prep |            |
| LCSD 880-41625/3-A  | Lab Control Sample Dup | Total/NA  | Solid  | 8015NM Prep |            |
| 880-22478-A-1-E MS  | Matrix Spike           | Total/NA  | Solid  | 8015NM Prep |            |
| 880-22478-A-1-F MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8015NM Prep |            |

## Analysis Batch: 41693

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|---------------------|------------------------|-----------|--------|----------|------------|
| 890-3603-1          | BH06                   | Total/NA  | Solid  | 8015B NM | 41625      |
| 890-3603-2          | BH06                   | Total/NA  | Solid  | 8015B NM | 41625      |
| MB 880-41625/1-A    | Method Blank           | Total/NA  | Solid  | 8015B NM | 41625      |
| LCS 880-41625/2-A   | Lab Control Sample     | Total/NA  | Solid  | 8015B NM | 41625      |
| LCSD 880-41625/3-A  | Lab Control Sample Dup | Total/NA  | Solid  | 8015B NM | 41625      |
| 880-22478-A-1-E MS  | Matrix Spike           | Total/NA  | Solid  | 8015B NM | 41625      |
| 880-22478-A-1-F MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8015B NM | 41625      |

Eurofins Carlsbad

### QC Association Summary

Client: Ensolum  
 Project/Site: James A Waterflood

Job ID: 890-3603-1  
 SDG: Lea County NM

#### GC Semi VOA

##### Analysis Batch: 41809

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method  | Prep Batch |
|---------------|------------------|-----------|--------|---------|------------|
| 890-3603-1    | BH06             | Total/NA  | Solid  | 8015 NM |            |
| 890-3603-2    | BH06             | Total/NA  | Solid  | 8015 NM |            |

#### HPLC/IC

##### Leach Batch: 41471

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 890-3603-1         | BH06                   | Soluble   | Solid  | DI Leach |            |
| 890-3603-2         | BH06                   | Soluble   | Solid  | DI Leach |            |
| MB 880-41471/1-A   | Method Blank           | Soluble   | Solid  | DI Leach |            |
| LCS 880-41471/2-A  | Lab Control Sample     | Soluble   | Solid  | DI Leach |            |
| LCSD 880-41471/3-A | Lab Control Sample Dup | Soluble   | Solid  | DI Leach |            |
| 890-3603-1 MS      | BH06                   | Soluble   | Solid  | DI Leach |            |
| 890-3603-1 MSD     | BH06                   | Soluble   | Solid  | DI Leach |            |

##### Analysis Batch: 41738

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3603-1         | BH06                   | Soluble   | Solid  | 300.0  | 41471      |
| 890-3603-2         | BH06                   | Soluble   | Solid  | 300.0  | 41471      |
| MB 880-41471/1-A   | Method Blank           | Soluble   | Solid  | 300.0  | 41471      |
| LCS 880-41471/2-A  | Lab Control Sample     | Soluble   | Solid  | 300.0  | 41471      |
| LCSD 880-41471/3-A | Lab Control Sample Dup | Soluble   | Solid  | 300.0  | 41471      |
| 890-3603-1 MS      | BH06                   | Soluble   | Solid  | 300.0  | 41471      |
| 890-3603-1 MSD     | BH06                   | Soluble   | Solid  | 300.0  | 41471      |

### Lab Chronicle

Client: Ensolum  
 Project/Site: James A Waterflood

Job ID: 890-3603-1  
 SDG: Lea County NM

**Client Sample ID: BH06**

**Lab Sample ID: 890-3603-1**

Date Collected: 12/06/22 15:00

Matrix: Solid

Date Received: 12/08/22 11:20

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 5035         |     |            | 5.03 g         | 5 mL         | 41943        | 12/15/22 15:22       | MNR     | EET MID |
| Total/NA  | Analysis   | 8021B        |     | 1          | 5 mL           | 5 mL         | 41993        | 12/17/22 10:11       | MNR     | EET MID |
| Total/NA  | Analysis   | Total BTEX   |     | 1          |                |              | 42248        | 12/19/22 16:21       | SM      | EET MID |
| Total/NA  | Analysis   | 8015 NM      |     | 1          |                |              | 41809        | 12/14/22 12:15       | SM      | EET MID |
| Total/NA  | Prep       | 8015NM Prep  |     |            | 10.00 g        | 10 mL        | 41625        | 12/12/22 11:00       | DM      | EET MID |
| Total/NA  | Analysis   | 8015B NM     |     | 1          | 1 uL           | 1 uL         | 41693        | 12/13/22 16:06       | SM      | EET MID |
| Soluble   | Leach      | DI Leach     |     |            | 4.99 g         | 50 mL        | 41471        | 12/09/22 13:16       | KS      | EET MID |
| Soluble   | Analysis   | 300.0        |     | 1          |                |              | 41738        | 12/14/22 10:03       | CH      | EET MID |

**Client Sample ID: BH06**

**Lab Sample ID: 890-3603-2**

Date Collected: 12/06/22 15:30

Matrix: Solid

Date Received: 12/08/22 11:20

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 5035         |     |            | 5.01 g         | 5 mL         | 41943        | 12/15/22 15:22       | MNR     | EET MID |
| Total/NA  | Analysis   | 8021B        |     | 1          | 5 mL           | 5 mL         | 41993        | 12/17/22 13:40       | MNR     | EET MID |
| Total/NA  | Analysis   | Total BTEX   |     | 1          |                |              | 42248        | 12/19/22 16:21       | SM      | EET MID |
| Total/NA  | Analysis   | 8015 NM      |     | 1          |                |              | 41809        | 12/14/22 12:15       | SM      | EET MID |
| Total/NA  | Prep       | 8015NM Prep  |     |            | 10.00 g        | 10 mL        | 41625        | 12/12/22 11:00       | DM      | EET MID |
| Total/NA  | Analysis   | 8015B NM     |     | 1          | 1 uL           | 1 uL         | 41693        | 12/13/22 16:28       | SM      | EET MID |
| Soluble   | Leach      | DI Leach     |     |            | 5.01 g         | 50 mL        | 41471        | 12/09/22 13:16       | KS      | EET MID |
| Soluble   | Analysis   | 300.0        |     | 1          |                |              | 41738        | 12/14/22 10:23       | CH      | EET MID |

**Laboratory References:**

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

### Accreditation/Certification Summary

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3603-1  
SDG: Lea County NM

#### Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority | Program | Identification Number | Expiration Date |
|-----------|---------|-----------------------|-----------------|
| Texas     | NELAP   | T104704400-22-24      | 06-30-23        |

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

| Analysis Method | Prep Method | Matrix | Analyte    |
|-----------------|-------------|--------|------------|
| 8015 NM         |             | Solid  | Total TPH  |
| Total BTEX      |             | Solid  | Total BTEX |

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### Method Summary

Client: Ensolum  
 Project/Site: James A Waterflood

Job ID: 890-3603-1  
 SDG: Lea County NM

| Method      | Method Description                 | Protocol | Laboratory |
|-------------|------------------------------------|----------|------------|
| 8021B       | Volatile Organic Compounds (GC)    | SW846    | EET MID    |
| Total BTEX  | Total BTEX Calculation             | TAL SOP  | EET MID    |
| 8015 NM     | Diesel Range Organics (DRO) (GC)   | SW846    | EET MID    |
| 8015B NM    | Diesel Range Organics (DRO) (GC)   | SW846    | EET MID    |
| 300.0       | Anions, Ion Chromatography         | MCAWW    | EET MID    |
| 5035        | Closed System Purge and Trap       | SW846    | EET MID    |
| 8015NM Prep | Microextraction                    | SW846    | EET MID    |
| DI Leach    | Deionized Water Leaching Procedure | ASTM     | EET MID    |

**Protocol References:**

- ASTM = ASTM International
- MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

- EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440



### Sample Summary

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3603-1  
SDG: Lea County NM

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| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       | Depth |
|---------------|------------------|--------|----------------|----------------|-------|
| 890-3603-1    | BH06             | Solid  | 12/06/22 15:00 | 12/08/22 11:20 | 1     |
| 890-3603-2    | BH06             | Solid  | 12/06/22 15:30 | 12/08/22 11:20 | 4     |

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### Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3603-1  
SDG Number: Lea County NM

**Login Number: 3603**  
**List Number: 1**  
**Creator: Clifton, Cloe**

**List Source: Eurofins Carlsbad**

| Question   | Answer | Comment                             |
|--|--------|-------------------------------------|
| The cooler's custody seal, if present, is intact.                                | True   |                                     |
| Sample custody seals, if present, are intact.                                    | True   |                                     |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |                                     |
| Samples were received on ice.  | True   |                                     |
| Cooler Temperature is acceptable.  | True   |                                     |
| Cooler Temperature is recorded.  | True   |                                     |
| COC is present.  | True   |                                     |
| COC is filled out in ink and legible.  | True   |                                     |
| COC is filled out with all pertinent information.                                | True   |                                     |
| Is the Field Sampler's name present on COC?                                      | True   |                                     |
| There are no discrepancies between the containers received and the COC.          | True   |                                     |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |                                     |
| Sample containers have legible labels.   | True   |                                     |
| Containers are not broken or leaking.  | True   |                                     |
| Sample collection date/times are provided.                                       | True   |                                     |
| Appropriate sample containers are used.  | N/A    | Refer to Job Narrative for details. |
| Sample bottles are completely filled.  | True   |                                     |
| Sample Preservation Verified.  | N/A    |                                     |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |                                     |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | N/A    |                                     |

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### Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3603-1  
SDG Number: Lea County NM

**Login Number: 3603**  
**List Number: 2**  
**Creator: Rodriguez, Leticia**

**List Source: Eurofins Midland**  
**List Creation: 12/09/22 11:39 AM**

| Question   | Answer | Comment |
|--|--------|---------|
| The cooler's custody seal, if present, is intact.                                | N/A    |         |
| Sample custody seals, if present, are intact.                                    | N/A    |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.  | True   |         |
| Cooler Temperature is acceptable.  | True   |         |
| Cooler Temperature is recorded.  | True   |         |
| COC is present.  | True   |         |
| COC is filled out in ink and legible.  | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | True   |         |
| There are no discrepancies between the containers received and the COC.          | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |         |
| Sample containers have legible labels.   | True   |         |
| Containers are not broken or leaking.  | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.  | True   |         |
| Sample bottles are completely filled.  | True   |         |
| Sample Preservation Verified.  | N/A    |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | N/A    |         |

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Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Kalei Jennings  
Ensolum

601 N. Marienfeld St.  
Suite 400

Midland, Texas 79701

Generated 12/19/2022 4:40:40 PM

## JOB DESCRIPTION

James A Waterflood  
SDG NUMBER Lea County NM

## JOB NUMBER

890-3604-1

Eurofins Carlsbad  
1089 N Canal St.  
Carlsbad NM 88220



# Eurofins Carlsbad

## Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

## Authorization



Generated  
12/19/2022 4:40:40 PM

Authorized for release by  
Jessica Kramer, Project Manager  
[Jessica.Kramer@et.eurofinsus.com](mailto:Jessica.Kramer@et.eurofinsus.com)  
(432)704-5440

Client: Ensolum  
Project/Site: James A Waterflood

Laboratory Job ID: 890-3604-1  
SDG: Lea County NM

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## Definitions/Glossary

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3604-1  
SDG: Lea County NM

## Qualifiers

## GC VOA

| Qualifier | Qualifier Description                                    |
|-----------|--|
| F1        | MS and/or MSD recovery exceeds control limits.           |
| F2        | MS/MSD RPD exceeds control limits                        |
| U         | Indicates the analyte was analyzed for but not detected. |

## GC Semi VOA

| Qualifier | Qualifier Description                                    |
|-----------|--|
| *1        | LCS/LCSD RPD exceeds control limits.                     |
| S1+       | Surrogate recovery exceeds control limits, high biased.  |
| U         | Indicates the analyte was analyzed for but not detected. |

## HPLC/IC

| Qualifier | Qualifier Description                                    |
|-----------|--|
| U         | Indicates the analyte was analyzed for but not detected. |

## Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| α              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CFU            | Colony Forming Unit   |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MCL            | EPA recommended "Maximum Contaminant Level"   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| MPN            | Most Probable Number  |
| MQL            | Method Quantitation Limit   |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| NEG            | Negative / Absent   |
| POS            | Positive / Present  |
| PQL            | Practical Quantitation Limit  |
| PRES           | Presumptive   |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |
| TNTC           | Too Numerous To Count   |

### Case Narrative

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3604-1  
SDG: Lea County NM

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**Job ID: 890-3604-1**

---

**Laboratory: Eurofins Carlsbad****Narrative****Job Narrative  
890-3604-1****Receipt**

The samples were received on 12/8/2022 11:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

**Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: BH05 (890-3604-1) and BH05 (890-3604-2).

**GC VOA**

Method 8021B: The following samples were diluted due to the nature of the sample matrix: (890-3601-A-1-C MS) and (890-3601-A-1-D MSD). Because of this dilution, the surrogate spike and matrix spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

**GC Semi VOA**

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-41625 and analytical batch 880-41693 was outside the upper control limits.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-41693/5) and (LCS 880-41625/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD\_NM: The method blank for preparation batch 880-41625 and analytical batch 880-41693 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD\_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-41625 and analytical batch 880-41693 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

**HPLC/IC**

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.



### Client Sample Results

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3604-1  
SDG: Lea County NM

**Client Sample ID: BH05**

**Lab Sample ID: 890-3604-1**

Date Collected: 12/06/22 14:00

Matrix: Solid

Date Received: 12/08/22 11:20

Sample Depth: 1

**Method: SW846 8021B - Volatile Organic Compounds (GC)**

| Analyte             | Result   | Qualifier | RL      | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|----------|-----------|---------|-------|---|----------------|----------------|---------|
| Benzene             | <0.00199 | U         | 0.00199 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 14:01 | 1       |
| Toluene             | <0.00199 | U         | 0.00199 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 14:01 | 1       |
| Ethylbenzene        | <0.00199 | U         | 0.00199 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 14:01 | 1       |
| m-Xylene & p-Xylene | <0.00398 | U         | 0.00398 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 14:01 | 1       |
| o-Xylene            | <0.00199 | U         | 0.00199 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 14:01 | 1       |
| Xylenes, Total      | <0.00398 | U         | 0.00398 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 14:01 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 114       |           | 70 - 130 | 12/15/22 15:22 | 12/17/22 14:01 | 1       |
| 1,4-Difluorobenzene (Surr)  | 102       |           | 70 - 130 | 12/15/22 15:22 | 12/17/22 14:01 | 1       |

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

| Analyte    | Result   | Qualifier | RL      | Unit  | D | Prepared | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-------|---|----------|----------------|---------|
| Total BTEX | <0.00398 | U         | 0.00398 | mg/Kg |   |          | 12/19/22 16:21 | 1       |

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

| Analyte   | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Total TPH | <49.9  | U         | 49.9 | mg/Kg |   |          | 12/14/22 12:15 | 1       |

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

| Analyte                              | Result | Qualifier | RL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|--------|-----------|------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9  | U         | 49.9 | mg/Kg |   | 12/12/22 11:00 | 12/13/22 16:51 | 1       |
| Diesel Range Organics (Over C10-C28) | <49.9  | U *1      | 49.9 | mg/Kg |   | 12/12/22 11:00 | 12/13/22 16:51 | 1       |
| Oil Range Organics (Over C28-C36)    | <49.9  | U         | 49.9 | mg/Kg |   | 12/12/22 11:00 | 12/13/22 16:51 | 1       |

| Surrogate      | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------|-----------|-----------|----------|----------------|----------------|---------|
| 1-Chlorooctane | 118       |           | 70 - 130 | 12/12/22 11:00 | 12/13/22 16:51 | 1       |
| o-Terphenyl    | 119       |           | 70 - 130 | 12/12/22 11:00 | 12/13/22 16:51 | 1       |

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

| Analyte  | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Chloride | 23.5   |           | 4.95 | mg/Kg |   |          | 12/14/22 10:29 | 1       |

**Client Sample ID: BH05**

**Lab Sample ID: 890-3604-2**

Date Collected: 12/06/22 14:10

Matrix: Solid

Date Received: 12/08/22 11:20

Sample Depth: 4

**Method: SW846 8021B - Volatile Organic Compounds (GC)**

| Analyte             | Result   | Qualifier | RL      | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|----------|-----------|---------|-------|---|----------------|----------------|---------|
| Benzene             | <0.00200 | U         | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 14:43 | 1       |
| Toluene             | <0.00200 | U         | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 14:43 | 1       |
| Ethylbenzene        | <0.00200 | U         | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 14:43 | 1       |
| m-Xylene & p-Xylene | <0.00401 | U         | 0.00401 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 14:43 | 1       |
| o-Xylene            | <0.00200 | U         | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 14:43 | 1       |
| Xylenes, Total      | <0.00401 | U         | 0.00401 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 14:43 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 120       |           | 70 - 130 | 12/15/22 15:22 | 12/17/22 14:43 | 1       |

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### Client Sample Results

Client: Ensolum  
 Project/Site: James A Waterflood

Job ID: 890-3604-1  
 SDG: Lea County NM

**Client Sample ID: BH05**

**Lab Sample ID: 890-3604-2**

Date Collected: 12/06/22 14:10

Matrix: Solid

Date Received: 12/08/22 11:20

Sample Depth: 4

**Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)**

| Surrogate                  | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 1,4-Difluorobenzene (Surr) | 97        |           | 70 - 130 | 12/15/22 15:22 | 12/17/22 14:43 | 1       |

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

| Analyte    | Result   | Qualifier | RL      | Unit  | D | Prepared | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-------|---|----------|----------------|---------|
| Total BTEX | <0.00401 | U         | 0.00401 | mg/Kg |   |          | 12/19/22 16:21 | 1       |

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

| Analyte   | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Total TPH | <49.9  | U         | 49.9 | mg/Kg |   |          | 12/14/22 12:15 | 1       |

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

| Analyte                              | Result | Qualifier | RL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|--------|-----------|------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9  | U         | 49.9 | mg/Kg |   | 12/12/22 11:00 | 12/13/22 17:13 | 1       |
| Diesel Range Organics (Over C10-C28) | <49.9  | U *1      | 49.9 | mg/Kg |   | 12/12/22 11:00 | 12/13/22 17:13 | 1       |
| Oil Range Organics (Over C28-C36)    | <49.9  | U         | 49.9 | mg/Kg |   | 12/12/22 11:00 | 12/13/22 17:13 | 1       |

| Surrogate      | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------|-----------|-----------|----------|----------------|----------------|---------|
| 1-Chlorooctane | 105       |           | 70 - 130 | 12/12/22 11:00 | 12/13/22 17:13 | 1       |
| o-Terphenyl    | 105       |           | 70 - 130 | 12/12/22 11:00 | 12/13/22 17:13 | 1       |

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

| Analyte  | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Chloride | 93.9   |           | 4.98 | mg/Kg |   |          | 12/14/22 10:49 | 1       |

## Surrogate Summary

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3604-1  
SDG: Lea County NM

## Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

| Lab Sample ID      | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |                   |
|--------------------|------------------------|--|-------------------|
|                    |                        | BFB1<br>(70-130)                               | DFBZ1<br>(70-130) |
| 890-3601-A-1-C MS  | Matrix Spike           | 85   | 92                |
| 890-3601-A-1-D MSD | Matrix Spike Duplicate | 86   | 89                |
| 890-3604-1         | BH05                   | 114  | 102               |
| 890-3604-2         | BH05                   | 120  | 97                |
| LCS 880-41943/1-A  | Lab Control Sample     | 97   | 95                |
| LCSD 880-41943/2-A | Lab Control Sample Dup | 94   | 94                |
| MB 880-41938/5-A   | Method Blank           | 92   | 93                |
| MB 880-41943/5-A   | Method Blank           | 97   | 90                |

**Surrogate Legend**

BFB = 4-Bromofluorobenzene (Surr)  
DFBZ = 1,4-Difluorobenzene (Surr)

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

| Lab Sample ID       | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |                   |
|---------------------|------------------------|--|-------------------|
|                     |                        | 1CO1<br>(70-130)                               | OTPH1<br>(70-130) |
| 880-22478-A-1-E MS  | Matrix Spike           | 125  | 104               |
| 880-22478-A-1-F MSD | Matrix Spike Duplicate | 127  | 106               |
| 890-3604-1          | BH05                   | 118  | 119               |
| 890-3604-2          | BH05                   | 105  | 105               |
| LCS 880-41625/2-A   | Lab Control Sample     | 165 S1+  | 162 S1+           |
| LCSD 880-41625/3-A  | Lab Control Sample Dup | 127  | 128               |
| MB 880-41625/1-A    | Method Blank           | 148 S1+  | 209 S1+           |

**Surrogate Legend**

1CO = 1-Chlorooctane  
OTPH = o-Terphenyl

### QC Sample Results

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3604-1  
SDG: Lea County NM

#### Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-41938/5-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 41938

| Analyte             | MB Result | MB Qualifier | RL      | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|-----------|--------------|---------|-------|---|----------------|----------------|---------|
| Benzene             | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| Toluene             | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| Ethylbenzene        | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| m-Xylene & p-Xylene | <0.00400  | U            | 0.00400 | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| o-Xylene            | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| Xylenes, Total      | <0.00400  | U            | 0.00400 | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |

| Surrogate                   | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|--------------|--------------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 92           |              | 70 - 130 | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| 1,4-Difluorobenzene (Surr)  | 93           |              | 70 - 130 | 12/15/22 14:55 | 12/16/22 22:04 | 1       |

Lab Sample ID: MB 880-41943/5-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte             | MB Result | MB Qualifier | RL      | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|-----------|--------------|---------|-------|---|----------------|----------------|---------|
| Benzene             | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| Toluene             | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| Ethylbenzene        | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| m-Xylene & p-Xylene | <0.00400  | U            | 0.00400 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| o-Xylene            | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| Xylenes, Total      | <0.00400  | U            | 0.00400 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |

| Surrogate                   | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|--------------|--------------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 97           |              | 70 - 130 | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| 1,4-Difluorobenzene (Surr)  | 90           |              | 70 - 130 | 12/15/22 15:22 | 12/17/22 08:47 | 1       |

Lab Sample ID: LCS 880-41943/1-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte             | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec Limits |
|---------------------|-------------|------------|---------------|-------|---|------|-------------|
| Benzene             | 0.100       | 0.09030    |               | mg/Kg |   | 90   | 70 - 130    |
| Toluene             | 0.100       | 0.08409    |               | mg/Kg |   | 84   | 70 - 130    |
| Ethylbenzene        | 0.100       | 0.07938    |               | mg/Kg |   | 79   | 70 - 130    |
| m-Xylene & p-Xylene | 0.200       | 0.1705     |               | mg/Kg |   | 85   | 70 - 130    |
| o-Xylene            | 0.100       | 0.08759    |               | mg/Kg |   | 88   | 70 - 130    |

| Surrogate                   | LCS %Recovery | LCS Qualifier | Limits   |
|-----------------------------|---------------|---------------|----------|
| 4-Bromofluorobenzene (Surr) | 97            |               | 70 - 130 |
| 1,4-Difluorobenzene (Surr)  | 95            |               | 70 - 130 |

Lab Sample ID: LCSD 880-41943/2-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---------|-------------|-------------|----------------|-------|---|------|-------------|-----|-----------|
| Benzene | 0.100       | 0.09270     |                | mg/Kg |   | 93   | 70 - 130    | 3   | 35        |

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### QC Sample Results

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3604-1  
SDG: Lea County NM

#### Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-41943/2-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte             | Spike Added | LCSD Result | LCSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---------------------|-------------|-------------|----------------|-------|---|------|-------------|-----|-----------|
| Toluene             | 0.100       | 0.08517     |                | mg/Kg |   | 85   | 70 - 130    | 1   | 35        |
| Ethylbenzene        | 0.100       | 0.07903     |                | mg/Kg |   | 79   | 70 - 130    | 0   | 35        |
| m-Xylene & p-Xylene | 0.200       | 0.1679      |                | mg/Kg |   | 84   | 70 - 130    | 2   | 35        |
| o-Xylene            | 0.100       | 0.08660     |                | mg/Kg |   | 87   | 70 - 130    | 1   | 35        |

| Surrogate                   | LCSD %Recovery | LCSD Qualifier | LCSD Limits |
|-----------------------------|----------------|----------------|-------------|
| 4-Bromofluorobenzene (Surr) | 94             |                | 70 - 130    |
| 1,4-Difluorobenzene (Surr)  | 94             |                | 70 - 130    |

Lab Sample ID: 890-3601-A-1-C MS  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte             | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit  | D | %Rec | %Rec Limits |
|---------------------|---------------|------------------|-------------|-----------|--------------|-------|---|------|-------------|
| Benzene             | <0.00200      | U F2 F1          | 0.100       | <0.00200  | U F1         | mg/Kg |   | 1    | 70 - 130    |
| Toluene             | <0.00200      | U F1             | 0.100       | <0.00200  | U F1         | mg/Kg |   | 0.6  | 70 - 130    |
| Ethylbenzene        | <0.00200      | U F1             | 0.100       | <0.00200  | U F1         | mg/Kg |   | 0    | 70 - 130    |
| m-Xylene & p-Xylene | <0.00401      | U F1             | 0.200       | <0.00401  | U F1         | mg/Kg |   | 0.6  | 70 - 130    |
| o-Xylene            | <0.00200      | U F1             | 0.100       | <0.00200  | U F1         | mg/Kg |   | 0.5  | 70 - 130    |

| Surrogate                   | MS %Recovery | MS Qualifier | MS Limits |
|-----------------------------|--------------|--------------|-----------|
| 4-Bromofluorobenzene (Surr) | 85           |              | 70 - 130  |
| 1,4-Difluorobenzene (Surr)  | 92           |              | 70 - 130  |

Lab Sample ID: 890-3601-A-1-D MSD  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte             | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---------------------|---------------|------------------|-------------|------------|---------------|-------|---|------|-------------|-----|-----------|
| Benzene             | <0.00200      | U F2 F1          | 0.0996      | <0.00199   | U F2 F1       | mg/Kg |   | 0.4  | 70 - 130    | 113 | 35        |
| Toluene             | <0.00200      | U F1             | 0.0996      | <0.00199   | U F1          | mg/Kg |   | 0    | 70 - 130    | NC  | 35        |
| Ethylbenzene        | <0.00200      | U F1             | 0.0996      | <0.00199   | U F1          | mg/Kg |   | 0    | 70 - 130    | NC  | 35        |
| m-Xylene & p-Xylene | <0.00401      | U F1             | 0.199       | <0.00398   | U F1          | mg/Kg |   | 0    | 70 - 130    | NC  | 35        |
| o-Xylene            | <0.00200      | U F1             | 0.0996      | <0.00199   | U F1          | mg/Kg |   | 0    | 70 - 130    | NC  | 35        |

| Surrogate                   | MSD %Recovery | MSD Qualifier | MSD Limits |
|-----------------------------|---------------|---------------|------------|
| 4-Bromofluorobenzene (Surr) | 86            |               | 70 - 130   |
| 1,4-Difluorobenzene (Surr)  | 89            |               | 70 - 130   |

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-41625/1-A  
Matrix: Solid  
Analysis Batch: 41693

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 41625

| Analyte                              | MB Result | MB Qualifier | RL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|-----------|--------------|------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0     | U            | 50.0 | mg/Kg |   | 12/12/22 11:00 | 12/13/22 08:06 | 1       |

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### QC Sample Results

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3604-1  
SDG: Lea County NM

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

**Lab Sample ID: MB 880-41625/1-A**  
**Matrix: Solid**  
**Analysis Batch: 41693**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 41625**

| Analyte                              | MB MB     |           | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|-----------|-----------|----------|-------|---|----------------|----------------|---------|
|                                      | Result    | Qualifier |          |       |   |                |                |         |
| Diesel Range Organics (Over C10-C28) | <50.0     | U         | 50.0     | mg/Kg |   | 12/12/22 11:00 | 12/13/22 08:06 | 1       |
| Oil Range Organics (Over C28-C36)    | <50.0     | U         | 50.0     | mg/Kg |   | 12/12/22 11:00 | 12/13/22 08:06 | 1       |
| Surrogate                            | MB MB     |           | Limits   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|                                      | %Recovery | Qualifier |          |       |   |                |                |         |
| 1-Chlorooctane                       | 148       | S1+       | 70 - 130 |       |   | 12/12/22 11:00 | 12/13/22 08:06 | 1       |
| o-Terphenyl                          | 209       | S1+       | 70 - 130 |       |   | 12/12/22 11:00 | 12/13/22 08:06 | 1       |

**Lab Sample ID: LCS 880-41625/2-A**  
**Matrix: Solid**  
**Analysis Batch: 41693**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 41625**

| Analyte                              | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec Limits |
|--------------------------------------|-------------|------------|---------------|-------|---|------|-------------|
|                                      |             |            |               |       |   |      |             |
| Diesel Range Organics (Over C10-C28) | 1000        | 1175       |               | mg/Kg |   | 118  | 70 - 130    |
| Surrogate                            | LCS LCS     |            | Limits        | Unit  | D | %Rec | %Rec Limits |
|                                      | %Recovery   | Qualifier  |               |       |   |      |             |
| 1-Chlorooctane                       | 165         | S1+        | 70 - 130      |       |   |      |             |
| o-Terphenyl                          | 162         | S1+        | 70 - 130      |       |   |      |             |

**Lab Sample ID: LCSD 880-41625/3-A**  
**Matrix: Solid**  
**Analysis Batch: 41693**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 41625**

| Analyte                              | Spike Added | LCSD Result | LCSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD |       |
|--------------------------------------|-------------|-------------|----------------|-------|---|------|-------------|-----|-------|
|                                      |             |             |                |       |   |      |             | RPD | Limit |
| Gasoline Range Organics (GRO)-C6-C10 | 1000        | 922.3       |                | mg/Kg |   | 92   | 70 - 130    | 3   | 20    |
| Diesel Range Organics (Over C10-C28) | 1000        | 925.4       | *1             | mg/Kg |   | 93   | 70 - 130    | 24  | 20    |
| Surrogate                            | LCSD LCSD   |             | Limits         | Unit  | D | %Rec | %Rec Limits | RPD | Limit |
|                                      | %Recovery   | Qualifier   |                |       |   |      |             |     |       |
| 1-Chlorooctane                       | 127         |             | 70 - 130       |       |   |      |             |     |       |
| o-Terphenyl                          | 128         |             | 70 - 130       |       |   |      |             |     |       |

**Lab Sample ID: 880-22478-A-1-E MS**  
**Matrix: Solid**  
**Analysis Batch: 41693**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 41625**

| Analyte                              | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit  | D           | %Rec | %Rec Limits |
|--------------------------------------|---------------|------------------|-------------|-----------|--------------|-------|-------------|------|-------------|
|                                      |               |                  |             |           |              |       |             |      |             |
| Diesel Range Organics (Over C10-C28) | <50.0         | U *1             | 999         | 1148      |              | mg/Kg |             | 113  | 70 - 130    |
| Surrogate                            | MS MS         |                  | Limits      | Unit      | D            | %Rec  | %Rec Limits |      |             |
|                                      | %Recovery     | Qualifier        |             |           |              |       |             |      |             |
| 1-Chlorooctane                       | 125           |                  | 70 - 130    |           |              |       |             |      |             |
| o-Terphenyl                          | 104           |                  | 70 - 130    |           |              |       |             |      |             |

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### QC Sample Results

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3604-1  
SDG: Lea County NM

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 880-22478-A-1-F MSD  
Matrix: Solid  
Analysis Batch: 41693

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 41625

| Analyte                              | Sample Result    | Sample Qualifier     | Spike Added | MSD Result    | MSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|--------------------------------------|------------------|----------------------|-------------|---------------|---------------|-------|---|------|-------------|-----|-----------|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0            | U                    | 997         | 1120          |               | mg/Kg |   | 109  | 70 - 130    | 3   | 20        |
| Diesel Range Organics (Over C10-C28) | <50.0            | U *1                 | 997         | 1190          |               | mg/Kg |   | 117  | 70 - 130    | 4   | 20        |
| <b>Surrogate</b>                     | <b>%Recovery</b> | <b>MSD Qualifier</b> | <b>MSD</b>  | <b>Limits</b> |               |       |   |      |             |     |           |
| 1-Chlorooctane                       | 127              |                      |             | 70 - 130      |               |       |   |      |             |     |           |
| o-Terphenyl                          | 106              |                      |             | 70 - 130      |               |       |   |      |             |     |           |

#### Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41471/1-A  
Matrix: Solid  
Analysis Batch: 41738

Client Sample ID: Method Blank  
Prep Type: Soluble

| Analyte  | MB Result | MB Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|------|-------|---|----------|----------------|---------|
| Chloride | <5.00     | U            | 5.00 | mg/Kg |   |          | 12/14/22 08:09 | 1       |

Lab Sample ID: LCS 880-41471/2-A  
Matrix: Solid  
Analysis Batch: 41738

Client Sample ID: Lab Control Sample  
Prep Type: Soluble

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec Limits |
|----------|-------------|------------|---------------|-------|---|------|-------------|
| Chloride | 250         | 254.3      |               | mg/Kg |   | 102  | 90 - 110    |

Lab Sample ID: LCSD 880-41471/3-A  
Matrix: Solid  
Analysis Batch: 41738

Client Sample ID: Lab Control Sample Dup  
Prep Type: Soluble

| Analyte  | Spike Added | LCSD Result | LCSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|----------|-------------|-------------|----------------|-------|---|------|-------------|-----|-----------|
| Chloride | 250         | 268.2       |                | mg/Kg |   | 107  | 90 - 110    | 5   | 20        |

Lab Sample ID: 890-3603-A-1-B MS  
Matrix: Solid  
Analysis Batch: 41738

Client Sample ID: Matrix Spike  
Prep Type: Soluble

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit  | D | %Rec | %Rec Limits |
|----------|---------------|------------------|-------------|-----------|--------------|-------|---|------|-------------|
| Chloride | 146           |                  | 251         | 401.1     |              | mg/Kg |   | 102  | 90 - 110    |

Lab Sample ID: 890-3603-A-1-C MSD  
Matrix: Solid  
Analysis Batch: 41738

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Soluble

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|----------|---------------|------------------|-------------|------------|---------------|-------|---|------|-------------|-----|-----------|
| Chloride | 146           |                  | 251         | 406.4      |               | mg/Kg |   | 104  | 90 - 110    | 1   | 20        |

Eurofins Carlsbad

## QC Association Summary

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3604-1  
SDG: Lea County NM

## GC VOA

## Prep Batch: 41938

| Lab Sample ID    | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|------------------|-----------|--------|--------|------------|
| MB 880-41938/5-A | Method Blank     | Total/NA  | Solid  | 5035   |            |

## Prep Batch: 41943

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3604-1         | BH05                   | Total/NA  | Solid  | 5035   |            |
| 890-3604-2         | BH05                   | Total/NA  | Solid  | 5035   |            |
| MB 880-41943/5-A   | Method Blank           | Total/NA  | Solid  | 5035   |            |
| LCS 880-41943/1-A  | Lab Control Sample     | Total/NA  | Solid  | 5035   |            |
| LCSD 880-41943/2-A | Lab Control Sample Dup | Total/NA  | Solid  | 5035   |            |
| 890-3601-A-1-C MS  | Matrix Spike           | Total/NA  | Solid  | 5035   |            |
| 890-3601-A-1-D MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 5035   |            |

## Analysis Batch: 41993

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3604-1         | BH05                   | Total/NA  | Solid  | 8021B  | 41943      |
| 890-3604-2         | BH05                   | Total/NA  | Solid  | 8021B  | 41943      |
| MB 880-41938/5-A   | Method Blank           | Total/NA  | Solid  | 8021B  | 41938      |
| MB 880-41943/5-A   | Method Blank           | Total/NA  | Solid  | 8021B  | 41943      |
| LCS 880-41943/1-A  | Lab Control Sample     | Total/NA  | Solid  | 8021B  | 41943      |
| LCSD 880-41943/2-A | Lab Control Sample Dup | Total/NA  | Solid  | 8021B  | 41943      |
| 890-3601-A-1-C MS  | Matrix Spike           | Total/NA  | Solid  | 8021B  | 41943      |
| 890-3601-A-1-D MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8021B  | 41943      |

## Analysis Batch: 42251

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method     | Prep Batch |
|---------------|------------------|-----------|--------|------------|------------|
| 890-3604-1    | BH05             | Total/NA  | Solid  | Total BTEX |            |
| 890-3604-2    | BH05             | Total/NA  | Solid  | Total BTEX |            |

## GC Semi VOA

## Prep Batch: 41625

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method      | Prep Batch |
|---------------------|------------------------|-----------|--------|-------------|------------|
| 890-3604-1          | BH05                   | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3604-2          | BH05                   | Total/NA  | Solid  | 8015NM Prep |            |
| MB 880-41625/1-A    | Method Blank           | Total/NA  | Solid  | 8015NM Prep |            |
| LCS 880-41625/2-A   | Lab Control Sample     | Total/NA  | Solid  | 8015NM Prep |            |
| LCSD 880-41625/3-A  | Lab Control Sample Dup | Total/NA  | Solid  | 8015NM Prep |            |
| 880-22478-A-1-E MS  | Matrix Spike           | Total/NA  | Solid  | 8015NM Prep |            |
| 880-22478-A-1-F MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8015NM Prep |            |

## Analysis Batch: 41693

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|---------------------|------------------------|-----------|--------|----------|------------|
| 890-3604-1          | BH05                   | Total/NA  | Solid  | 8015B NM | 41625      |
| 890-3604-2          | BH05                   | Total/NA  | Solid  | 8015B NM | 41625      |
| MB 880-41625/1-A    | Method Blank           | Total/NA  | Solid  | 8015B NM | 41625      |
| LCS 880-41625/2-A   | Lab Control Sample     | Total/NA  | Solid  | 8015B NM | 41625      |
| LCSD 880-41625/3-A  | Lab Control Sample Dup | Total/NA  | Solid  | 8015B NM | 41625      |
| 880-22478-A-1-E MS  | Matrix Spike           | Total/NA  | Solid  | 8015B NM | 41625      |
| 880-22478-A-1-F MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8015B NM | 41625      |

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### QC Association Summary

Client: Ensolum  
 Project/Site: James A Waterflood

Job ID: 890-3604-1  
 SDG: Lea County NM

#### GC Semi VOA

##### Analysis Batch: 41810

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method  | Prep Batch |
|---------------|------------------|-----------|--------|---------|------------|
| 890-3604-1    | BH05             | Total/NA  | Solid  | 8015 NM |            |
| 890-3604-2    | BH05             | Total/NA  | Solid  | 8015 NM |            |

#### HPLC/IC

##### Leach Batch: 41471

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 890-3604-1         | BH05                   | Soluble   | Solid  | DI Leach |            |
| 890-3604-2         | BH05                   | Soluble   | Solid  | DI Leach |            |
| MB 880-41471/1-A   | Method Blank           | Soluble   | Solid  | DI Leach |            |
| LCS 880-41471/2-A  | Lab Control Sample     | Soluble   | Solid  | DI Leach |            |
| LCSD 880-41471/3-A | Lab Control Sample Dup | Soluble   | Solid  | DI Leach |            |
| 890-3603-A-1-B MS  | Matrix Spike           | Soluble   | Solid  | DI Leach |            |
| 890-3603-A-1-C MSD | Matrix Spike Duplicate | Soluble   | Solid  | DI Leach |            |

##### Analysis Batch: 41738

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3604-1         | BH05                   | Soluble   | Solid  | 300.0  | 41471      |
| 890-3604-2         | BH05                   | Soluble   | Solid  | 300.0  | 41471      |
| MB 880-41471/1-A   | Method Blank           | Soluble   | Solid  | 300.0  | 41471      |
| LCS 880-41471/2-A  | Lab Control Sample     | Soluble   | Solid  | 300.0  | 41471      |
| LCSD 880-41471/3-A | Lab Control Sample Dup | Soluble   | Solid  | 300.0  | 41471      |
| 890-3603-A-1-B MS  | Matrix Spike           | Soluble   | Solid  | 300.0  | 41471      |
| 890-3603-A-1-C MSD | Matrix Spike Duplicate | Soluble   | Solid  | 300.0  | 41471      |

### Lab Chronicle

Client: Ensolum  
 Project/Site: James A Waterflood

Job ID: 890-3604-1  
 SDG: Lea County NM

**Client Sample ID: BH05**

**Lab Sample ID: 890-3604-1**

Date Collected: 12/06/22 14:00

Matrix: Solid

Date Received: 12/08/22 11:20

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 5035         |     |            | 5.02 g         | 5 mL         | 41943        | 12/15/22 15:22       | MNR     | EET MID |
| Total/NA  | Analysis   | 8021B        |     | 1          | 5 mL           | 5 mL         | 41993        | 12/17/22 14:01       | MNR     | EET MID |
| Total/NA  | Analysis   | Total BTEX   |     | 1          |                |              | 42251        | 12/19/22 16:21       | SM      | EET MID |
| Total/NA  | Analysis   | 8015 NM      |     | 1          |                |              | 41810        | 12/14/22 12:15       | SM      | EET MID |
| Total/NA  | Prep       | 8015NM Prep  |     |            | 10.02 g        | 10 mL        | 41625        | 12/12/22 11:00       | DM      | EET MID |
| Total/NA  | Analysis   | 8015B NM     |     | 1          | 1 uL           | 1 uL         | 41693        | 12/13/22 16:51       | SM      | EET MID |
| Soluble   | Leach      | DI Leach     |     |            | 5.05 g         | 50 mL        | 41471        | 12/09/22 13:16       | KS      | EET MID |
| Soluble   | Analysis   | 300.0        |     | 1          |                |              | 41738        | 12/14/22 10:29       | CH      | EET MID |

**Client Sample ID: BH05**

**Lab Sample ID: 890-3604-2**

Date Collected: 12/06/22 14:10

Matrix: Solid

Date Received: 12/08/22 11:20

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 5035         |     |            | 4.99 g         | 5 mL         | 41943        | 12/15/22 15:22       | MNR     | EET MID |
| Total/NA  | Analysis   | 8021B        |     | 1          | 5 mL           | 5 mL         | 41993        | 12/17/22 14:43       | MNR     | EET MID |
| Total/NA  | Analysis   | Total BTEX   |     | 1          |                |              | 42251        | 12/19/22 16:21       | SM      | EET MID |
| Total/NA  | Analysis   | 8015 NM      |     | 1          |                |              | 41810        | 12/14/22 12:15       | SM      | EET MID |
| Total/NA  | Prep       | 8015NM Prep  |     |            | 10.03 g        | 10 mL        | 41625        | 12/12/22 11:00       | DM      | EET MID |
| Total/NA  | Analysis   | 8015B NM     |     | 1          | 1 uL           | 1 uL         | 41693        | 12/13/22 17:13       | SM      | EET MID |
| Soluble   | Leach      | DI Leach     |     |            | 5.02 g         | 50 mL        | 41471        | 12/09/22 13:16       | KS      | EET MID |
| Soluble   | Analysis   | 300.0        |     | 1          |                |              | 41738        | 12/14/22 10:49       | CH      | EET MID |

**Laboratory References:**

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

### Accreditation/Certification Summary

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3604-1  
SDG: Lea County NM

#### Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority | Program | Identification Number | Expiration Date |
|-----------|---------|-----------------------|-----------------|
| Texas     | NELAP   | T104704400-22-24      | 06-30-23        |

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

| Analysis Method | Prep Method | Matrix | Analyte    |
|-----------------|-------------|--------|------------|
| 8015 NM         |             | Solid  | Total TPH  |
| Total BTEX      |             | Solid  | Total BTEX |

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

### Method Summary

Client: Ensolum  
 Project/Site: James A Waterflood

Job ID: 890-3604-1  
 SDG: Lea County NM

| Method      | Method Description                 | Protocol | Laboratory |
|-------------|------------------------------------|----------|------------|
| 8021B       | Volatile Organic Compounds (GC)    | SW846    | EET MID    |
| Total BTEX  | Total BTEX Calculation             | TAL SOP  | EET MID    |
| 8015 NM     | Diesel Range Organics (DRO) (GC)   | SW846    | EET MID    |
| 8015B NM    | Diesel Range Organics (DRO) (GC)   | SW846    | EET MID    |
| 300.0       | Anions, Ion Chromatography         | MCAWW    | EET MID    |
| 5035        | Closed System Purge and Trap       | SW846    | EET MID    |
| 8015NM Prep | Microextraction                    | SW846    | EET MID    |
| DI Leach    | Deionized Water Leaching Procedure | ASTM     | EET MID    |

**Protocol References:**

- ASTM = ASTM International
- MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

- EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440



### Sample Summary

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3604-1  
SDG: Lea County NM

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| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       | Depth |
|---------------|------------------|--------|----------------|----------------|-------|
| 890-3604-1    | BH05             | Solid  | 12/06/22 14:00 | 12/08/22 11:20 | 1     |
| 890-3604-2    | BH05             | Solid  | 12/06/22 14:10 | 12/08/22 11:20 | 4     |

---

- 1
- 2
- 3
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- 12
- 13
- 14



Environment Testing  
Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300  
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334  
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296  
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

### Chain of Custody

Work Order No: \_\_\_\_\_

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|                  |                                |                         |   |
|------------------|--------------------------------|-------------------------|---|
| Project Manager: | Kalei Jennings                 | Bill to: (if different) | Kalei Jennings                            |
| Company Name:    | Ensolum, LLC                   | Company Name:           | Ensolum, LLC                              |
| Address:         | 601 N Martenfield St Suite 400 | Address:                | 601 N Martenfield St Suite 400            |
| City, State ZIP: | Midland, TX 79701              | City, State ZIP:        | Midland, TX 79701                         |
| Phone:           | 817.683.2503                   | Email:                  | kjennings@ensolum.com, jadams@ensolum.com |

|  |  |
|--|--|
| <b>Work Order Comments</b>   |  |
| Program: <input type="checkbox"/> UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/> |  |
| State of Project:  |  |
| Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/>                     |  |
| Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:   |  |

|                          |   |  |   |            |  |
|--------------------------|---|--|---|------------|--|
| Project Name:            | James A Waterflood  | Turn Around  | <input checked="" type="checkbox"/> Routine <input type="checkbox"/> Rush | Pres. Code |  |
| Project Number:          | 03D2024119 & 03D2024120   | Due Date:  |   |            |  |
| Project Location:        | Lea County, NM  | TAT starts the day received by the lab. If received by 4:30pm                |   |            |  |
| Sampler's Name:          | Conner Shore  |  |   |            |  |
| PO #:                    |   |  |   |            |  |
| <b>SAMPLE RECEIPT</b>    | Temp Blank: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Wet Ice: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | <b>Parameters</b>   |            |  |
| Samples Received Intact: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No             | Thermometer ID:  | 1111111111  |            |  |
| Cooler Custody Seals:    | Yes No M/A  | Correction Factor:   | -0.03   |            |  |
| Sample Custody Seals:    | Yes No N/A  | Temperature Reading:   | 2-8   |            |  |
| Total Containers:        |   | Corrected Temperature:   | 2.10  |            |  |



| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Grab/Comp | # of Cont. | ANALYSIS REQUEST       | Preservative Codes  | Sample Comments   |
|-----------------------|--------|--------------|--------------|-------|-----------|------------|------------------------|---|---|
| BH05                  | S      | 12.6.22      | 1400         | 1'    | G         | 1          | CHLORIDES (EPA: 300.0) | None: NO<br>Cool: Cool<br>HCL: HC<br>H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub>  | DI Water: H <sub>2</sub> O<br>MeOH: Me<br>HNO <sub>3</sub> : HN<br>NaOH: Na |
| BH05                  | S      | 12.6.22      | 1410         | 4'    | G         | 1          | TPH (8015)             | H <sub>3</sub> PO <sub>4</sub> : HP<br>NaHSO <sub>4</sub> : NABIS<br>Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> : NASO <sub>3</sub><br>Zn Acetate+NaOH: Zn<br>NaOH+Ascorbic Acid: SAPC |   |
|                       |        |              |              |       |           |            | BTEX (8021)            |   |   |

Total 200.7 / 6010    200.8 / 6020:    8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO<sub>2</sub> Na Sr Ti Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed    TCLP / SPLP 6010. 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U    Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

|                              |                          |                           |                              |                          |           |
|------------------------------|--------------------------|---------------------------|------------------------------|--------------------------|-----------|
| Relinquished by: (Signature) | Received by: (Signature) | Date/Time                 | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
|                              |                          | 12-8-22 1120 <sup>2</sup> |                              |                          |           |
|                              |                          |                           |                              |                          |           |
|                              |                          |                           |                              |                          |           |
|                              |                          |                           |                              |                          |           |
|                              |                          |                           |                              |                          |           |

### Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3604-1  
SDG Number: Lea County NM

**Login Number: 3604**  
**List Number: 1**  
**Creator: Clifton, Cloe**

**List Source: Eurofins Carlsbad**

| Question   | Answer | Comment                             |
|--|--------|-------------------------------------|
| The cooler's custody seal, if present, is intact.                                | True   |                                     |
| Sample custody seals, if present, are intact.                                    | True   |                                     |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |                                     |
| Samples were received on ice.  | True   |                                     |
| Cooler Temperature is acceptable.  | True   |                                     |
| Cooler Temperature is recorded.  | True   |                                     |
| COC is present.  | True   |                                     |
| COC is filled out in ink and legible.  | True   |                                     |
| COC is filled out with all pertinent information.                                | True   |                                     |
| Is the Field Sampler's name present on COC?                                      | True   |                                     |
| There are no discrepancies between the containers received and the COC.          | True   |                                     |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |                                     |
| Sample containers have legible labels.   | True   |                                     |
| Containers are not broken or leaking.  | True   |                                     |
| Sample collection date/times are provided.                                       | True   |                                     |
| Appropriate sample containers are used.  | N/A    | Refer to Job Narrative for details. |
| Sample bottles are completely filled.  | True   |                                     |
| Sample Preservation Verified.  | N/A    |                                     |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |                                     |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | N/A    |                                     |

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### Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3604-1  
SDG Number: Lea County NM

**Login Number: 3604**  
**List Number: 2**  
**Creator: Rodriguez, Leticia**

**List Source: Eurofins Midland**  
**List Creation: 12/09/22 11:39 AM**

| Question   | Answer | Comment |
|--|--------|---------|
| The cooler's custody seal, if present, is intact.                                | N/A    |         |
| Sample custody seals, if present, are intact.                                    | N/A    |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.  | True   |         |
| Cooler Temperature is acceptable.  | True   |         |
| Cooler Temperature is recorded.  | True   |         |
| COC is present.  | True   |         |
| COC is filled out in ink and legible.  | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | True   |         |
| There are no discrepancies between the containers received and the COC.          | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |         |
| Sample containers have legible labels.   | True   |         |
| Containers are not broken or leaking.  | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.  | True   |         |
| Sample bottles are completely filled.  | True   |         |
| Sample Preservation Verified.  | N/A    |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | N/A    |         |

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Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Kalei Jennings  
 Ensolum  
 601 N. Marienfeld St.  
 Suite 400  
 Midland, Texas 79701

Generated 12/19/2022 4:41:15 PM

## JOB DESCRIPTION

JAMES A WATERFLOOD  
 SDG NUMBER Lea County NM

## JOB NUMBER

890-3605-1

Eurofins Carlsbad  
 1089 N Canal St.  
 Carlsbad NM 88220



# Eurofins Carlsbad

## Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

## Authorization



Generated  
12/19/2022 4:41:15 PM

Authorized for release by  
Jessica Kramer, Project Manager  
[Jessica.Kramer@et.eurofinsus.com](mailto:Jessica.Kramer@et.eurofinsus.com)  
(432)704-5440

Client: Ensolum  
Project/Site: JAMES A WATERFLOOD

Laboratory Job ID: 890-3605-1  
SDG: Lea County NM

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## Definitions/Glossary

Client: Ensolum  
Project/Site: JAMES A WATERFLOOD

Job ID: 890-3605-1  
SDG: Lea County NM

## Qualifiers

## GC VOA

| Qualifier | Qualifier Description                                    |
|-----------|--|
| F1        | MS and/or MSD recovery exceeds control limits.           |
| F2        | MS/MSD RPD exceeds control limits                        |
| U         | Indicates the analyte was analyzed for but not detected. |

## GC Semi VOA

| Qualifier | Qualifier Description                                    |
|-----------|--|
| S1+       | Surrogate recovery exceeds control limits, high biased.  |
| U         | Indicates the analyte was analyzed for but not detected. |

## HPLC/IC

| Qualifier | Qualifier Description                                    |
|-----------|--|
| U         | Indicates the analyte was analyzed for but not detected. |

## Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| α              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CFU            | Colony Forming Unit   |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MCL            | EPA recommended "Maximum Contaminant Level"   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| MPN            | Most Probable Number  |
| MQL            | Method Quantitation Limit   |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| NEG            | Negative / Absent   |
| POS            | Positive / Present  |
| PQL            | Practical Quantitation Limit  |
| PRES           | Presumptive   |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |
| TNTC           | Too Numerous To Count   |

### Case Narrative

Client: Ensolum  
Project/Site: JAMES A WATERFLOOD

Job ID: 890-3605-1  
SDG: Lea County NM

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**Job ID: 890-3605-1**

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**Laboratory: Eurofins Carlsbad****Narrative**

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**Job Narrative  
890-3605-1**

**Receipt**

The samples were received on 12/8/2022 11:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

**Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: BH04 (890-3605-1) and BH04 (890-3605-2).

**GC VOA**

Method 8021B: The following samples were diluted due to the nature of the sample matrix: (890-3601-A-1-C MS) and (890-3601-A-1-D MSD). Because of this dilution, the surrogate spike and matrix spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

**GC Semi VOA**

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-41626 and analytical batch 880-41693 was outside the upper control limits.

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: BH04 (890-3605-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

**HPLC/IC**

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.



### Client Sample Results

Client: Ensolum  
 Project/Site: JAMES A WATERFLOOD

Job ID: 890-3605-1  
 SDG: Lea County NM

**Client Sample ID: BH04**

**Lab Sample ID: 890-3605-1**

Date Collected: 12/06/22 13:00

Matrix: Solid

Date Received: 12/08/22 11:20

Sample Depth: 1

**Method: SW846 8021B - Volatile Organic Compounds (GC)**

| Analyte             | Result   | Qualifier | RL      | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|----------|-----------|---------|-------|---|----------------|----------------|---------|
| Benzene             | <0.00201 | U         | 0.00201 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 15:04 | 1       |
| Toluene             | <0.00201 | U         | 0.00201 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 15:04 | 1       |
| Ethylbenzene        | <0.00201 | U         | 0.00201 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 15:04 | 1       |
| m-Xylene & p-Xylene | <0.00402 | U         | 0.00402 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 15:04 | 1       |
| o-Xylene            | <0.00201 | U         | 0.00201 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 15:04 | 1       |
| Xylenes, Total      | <0.00402 | U         | 0.00402 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 15:04 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 113       |           | 70 - 130 | 12/15/22 15:22 | 12/17/22 15:04 | 1       |
| 1,4-Difluorobenzene (Surr)  | 99        |           | 70 - 130 | 12/15/22 15:22 | 12/17/22 15:04 | 1       |

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

| Analyte    | Result   | Qualifier | RL      | Unit  | D | Prepared | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-------|---|----------|----------------|---------|
| Total BTEX | <0.00402 | U         | 0.00402 | mg/Kg |   |          | 12/19/22 16:21 | 1       |

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

| Analyte   | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Total TPH | <50.0  | U         | 50.0 | mg/Kg |   |          | 12/14/22 12:15 | 1       |

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

| Analyte                              | Result | Qualifier | RL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|--------|-----------|------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0  | U         | 50.0 | mg/Kg |   | 12/12/22 11:03 | 12/13/22 20:58 | 1       |
| Diesel Range Organics (Over C10-C28) | <50.0  | U         | 50.0 | mg/Kg |   | 12/12/22 11:03 | 12/13/22 20:58 | 1       |
| Oil Range Organics (Over C28-C36)    | <50.0  | U         | 50.0 | mg/Kg |   | 12/12/22 11:03 | 12/13/22 20:58 | 1       |

| Surrogate      | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------|-----------|-----------|----------|----------------|----------------|---------|
| 1-Chlorooctane | 138       | S1+       | 70 - 130 | 12/12/22 11:03 | 12/13/22 20:58 | 1       |
| o-Terphenyl    | 139       | S1+       | 70 - 130 | 12/12/22 11:03 | 12/13/22 20:58 | 1       |

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

| Analyte  | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Chloride | 578    |           | 5.04 | mg/Kg |   |          | 12/14/22 10:56 | 1       |

**Client Sample ID: BH04**

**Lab Sample ID: 890-3605-2**

Date Collected: 12/06/22 13:30

Matrix: Solid

Date Received: 12/08/22 11:20

Sample Depth: 4

**Method: SW846 8021B - Volatile Organic Compounds (GC)**

| Analyte             | Result   | Qualifier | RL      | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|----------|-----------|---------|-------|---|----------------|----------------|---------|
| Benzene             | <0.00201 | U         | 0.00201 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 15:25 | 1       |
| Toluene             | <0.00201 | U         | 0.00201 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 15:25 | 1       |
| Ethylbenzene        | <0.00201 | U         | 0.00201 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 15:25 | 1       |
| m-Xylene & p-Xylene | <0.00402 | U         | 0.00402 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 15:25 | 1       |
| o-Xylene            | <0.00201 | U         | 0.00201 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 15:25 | 1       |
| Xylenes, Total      | <0.00402 | U         | 0.00402 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 15:25 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 121       |           | 70 - 130 | 12/15/22 15:22 | 12/17/22 15:25 | 1       |

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### Client Sample Results

Client: Ensolum  
 Project/Site: JAMES A WATERFLOOD

Job ID: 890-3605-1  
 SDG: Lea County NM

**Client Sample ID: BH04**

**Lab Sample ID: 890-3605-2**

Date Collected: 12/06/22 13:30

Matrix: Solid

Date Received: 12/08/22 11:20

Sample Depth: 4

**Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)**

| Surrogate                  | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 1,4-Difluorobenzene (Surr) | 98        |           | 70 - 130 | 12/15/22 15:22 | 12/17/22 15:25 | 1       |

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

| Analyte    | Result   | Qualifier | RL      | Unit  | D | Prepared | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-------|---|----------|----------------|---------|
| Total BTEX | <0.00402 | U         | 0.00402 | mg/Kg |   |          | 12/19/22 16:21 | 1       |

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

| Analyte   | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Total TPH | <49.9  | U         | 49.9 | mg/Kg |   |          | 12/14/22 12:15 | 1       |

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

| Analyte                              | Result | Qualifier | RL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|--------|-----------|------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9  | U         | 49.9 | mg/Kg |   | 12/12/22 11:03 | 12/13/22 22:04 | 1       |
| Diesel Range Organics (Over C10-C28) | <49.9  | U         | 49.9 | mg/Kg |   | 12/12/22 11:03 | 12/13/22 22:04 | 1       |
| Oil Range Organics (Over C28-C36)    | <49.9  | U         | 49.9 | mg/Kg |   | 12/12/22 11:03 | 12/13/22 22:04 | 1       |

| Surrogate      | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------|-----------|-----------|----------|----------------|----------------|---------|
| 1-Chlorooctane | 110       |           | 70 - 130 | 12/12/22 11:03 | 12/13/22 22:04 | 1       |
| o-Terphenyl    | 112       |           | 70 - 130 | 12/12/22 11:03 | 12/13/22 22:04 | 1       |

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

| Analyte  | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Chloride | 87.5   |           | 5.02 | mg/Kg |   |          | 12/14/22 11:02 | 1       |

## Surrogate Summary

Client: Ensolum  
Project/Site: JAMES A WATERFLOOD

Job ID: 890-3605-1  
SDG: Lea County NM

## Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

| Lab Sample ID      | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |                   |
|--------------------|------------------------|--|-------------------|
|                    |                        | BFB1<br>(70-130)                               | DFBZ1<br>(70-130) |
| 890-3601-A-1-C MS  | Matrix Spike           | 85   | 92                |
| 890-3601-A-1-D MSD | Matrix Spike Duplicate | 86   | 89                |
| 890-3605-1         | BH04                   | 113  | 99                |
| 890-3605-2         | BH04                   | 121  | 98                |
| LCS 880-41943/1-A  | Lab Control Sample     | 97   | 95                |
| LCSD 880-41943/2-A | Lab Control Sample Dup | 94   | 94                |
| MB 880-41938/5-A   | Method Blank           | 92   | 93                |
| MB 880-41943/5-A   | Method Blank           | 97   | 90                |

**Surrogate Legend**

BFB = 4-Bromofluorobenzene (Surr)  
DFBZ = 1,4-Difluorobenzene (Surr)

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

| Lab Sample ID      | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |                   |
|--------------------|------------------------|--|-------------------|
|                    |                        | 1CO1<br>(70-130)                               | OTPH1<br>(70-130) |
| 890-3605-1         | BH04                   | 138 S1+  | 139 S1+           |
| 890-3605-1 MS      | BH04                   | 104  | 91                |
| 890-3605-1 MSD     | BH04                   | 94   | 93                |
| 890-3605-2         | BH04                   | 110  | 112               |
| LCS 880-41626/2-A  | Lab Control Sample     | 102  | 116               |
| LCSD 880-41626/3-A | Lab Control Sample Dup | 114  | 127               |
| MB 880-41626/1-A   | Method Blank           | 152 S1+  | 207 S1+           |

**Surrogate Legend**

1CO = 1-Chlorooctane  
OTPH = o-Terphenyl

### QC Sample Results

Client: Ensolum  
Project/Site: JAMES A WATERFLOOD

Job ID: 890-3605-1  
SDG: Lea County NM

#### Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-41938/5-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 41938

| Analyte             | MB Result | MB Qualifier | RL      | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|-----------|--------------|---------|-------|---|----------------|----------------|---------|
| Benzene             | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| Toluene             | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| Ethylbenzene        | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| m-Xylene & p-Xylene | <0.00400  | U            | 0.00400 | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| o-Xylene            | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| Xylenes, Total      | <0.00400  | U            | 0.00400 | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |

| Surrogate                   | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|--------------|--------------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 92           |              | 70 - 130 | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| 1,4-Difluorobenzene (Surr)  | 93           |              | 70 - 130 | 12/15/22 14:55 | 12/16/22 22:04 | 1       |

Lab Sample ID: MB 880-41943/5-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte             | MB Result | MB Qualifier | RL      | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|-----------|--------------|---------|-------|---|----------------|----------------|---------|
| Benzene             | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| Toluene             | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| Ethylbenzene        | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| m-Xylene & p-Xylene | <0.00400  | U            | 0.00400 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| o-Xylene            | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| Xylenes, Total      | <0.00400  | U            | 0.00400 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |

| Surrogate                   | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|--------------|--------------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 97           |              | 70 - 130 | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| 1,4-Difluorobenzene (Surr)  | 90           |              | 70 - 130 | 12/15/22 15:22 | 12/17/22 08:47 | 1       |

Lab Sample ID: LCS 880-41943/1-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte             | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec Limits |
|---------------------|-------------|------------|---------------|-------|---|------|-------------|
| Benzene             | 0.100       | 0.09030    |               | mg/Kg |   | 90   | 70 - 130    |
| Toluene             | 0.100       | 0.08409    |               | mg/Kg |   | 84   | 70 - 130    |
| Ethylbenzene        | 0.100       | 0.07938    |               | mg/Kg |   | 79   | 70 - 130    |
| m-Xylene & p-Xylene | 0.200       | 0.1705     |               | mg/Kg |   | 85   | 70 - 130    |
| o-Xylene            | 0.100       | 0.08759    |               | mg/Kg |   | 88   | 70 - 130    |

| Surrogate                   | LCS %Recovery | LCS Qualifier | Limits   |
|-----------------------------|---------------|---------------|----------|
| 4-Bromofluorobenzene (Surr) | 97            |               | 70 - 130 |
| 1,4-Difluorobenzene (Surr)  | 95            |               | 70 - 130 |

Lab Sample ID: LCSD 880-41943/2-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---------|-------------|-------------|----------------|-------|---|------|-------------|-----|-----------|
| Benzene | 0.100       | 0.09270     |                | mg/Kg |   | 93   | 70 - 130    | 3   | 35        |

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### QC Sample Results

Client: Ensolum  
Project/Site: JAMES A WATERFLOOD

Job ID: 890-3605-1  
SDG: Lea County NM

#### Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-41943/2-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte             | Spike Added | LCSD Result | LCSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---------------------|-------------|-------------|----------------|-------|---|------|-------------|-----|-----------|
| Toluene             | 0.100       | 0.08517     |                | mg/Kg |   | 85   | 70 - 130    | 1   | 35        |
| Ethylbenzene        | 0.100       | 0.07903     |                | mg/Kg |   | 79   | 70 - 130    | 0   | 35        |
| m-Xylene & p-Xylene | 0.200       | 0.1679      |                | mg/Kg |   | 84   | 70 - 130    | 2   | 35        |
| o-Xylene            | 0.100       | 0.08660     |                | mg/Kg |   | 87   | 70 - 130    | 1   | 35        |

| Surrogate                   | LCSD %Recovery | LCSD Qualifier | LCSD Limits |
|-----------------------------|----------------|----------------|-------------|
| 4-Bromofluorobenzene (Surr) | 94             |                | 70 - 130    |
| 1,4-Difluorobenzene (Surr)  | 94             |                | 70 - 130    |

Lab Sample ID: 890-3601-A-1-C MS  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte             | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit  | D | %Rec | %Rec Limits |
|---------------------|---------------|------------------|-------------|-----------|--------------|-------|---|------|-------------|
| Benzene             | <0.00200      | U F2 F1          | 0.100       | <0.00200  | U F1         | mg/Kg |   | 1    | 70 - 130    |
| Toluene             | <0.00200      | U F1             | 0.100       | <0.00200  | U F1         | mg/Kg |   | 0.6  | 70 - 130    |
| Ethylbenzene        | <0.00200      | U F1             | 0.100       | <0.00200  | U F1         | mg/Kg |   | 0    | 70 - 130    |
| m-Xylene & p-Xylene | <0.00401      | U F1             | 0.200       | <0.00401  | U F1         | mg/Kg |   | 0.6  | 70 - 130    |
| o-Xylene            | <0.00200      | U F1             | 0.100       | <0.00200  | U F1         | mg/Kg |   | 0.5  | 70 - 130    |

| Surrogate                   | MS %Recovery | MS Qualifier | MS Limits |
|-----------------------------|--------------|--------------|-----------|
| 4-Bromofluorobenzene (Surr) | 85           |              | 70 - 130  |
| 1,4-Difluorobenzene (Surr)  | 92           |              | 70 - 130  |

Lab Sample ID: 890-3601-A-1-D MSD  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte             | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---------------------|---------------|------------------|-------------|------------|---------------|-------|---|------|-------------|-----|-----------|
| Benzene             | <0.00200      | U F2 F1          | 0.0996      | <0.00199   | U F2 F1       | mg/Kg |   | 0.4  | 70 - 130    | 113 | 35        |
| Toluene             | <0.00200      | U F1             | 0.0996      | <0.00199   | U F1          | mg/Kg |   | 0    | 70 - 130    | NC  | 35        |
| Ethylbenzene        | <0.00200      | U F1             | 0.0996      | <0.00199   | U F1          | mg/Kg |   | 0    | 70 - 130    | NC  | 35        |
| m-Xylene & p-Xylene | <0.00401      | U F1             | 0.199       | <0.00398   | U F1          | mg/Kg |   | 0    | 70 - 130    | NC  | 35        |
| o-Xylene            | <0.00200      | U F1             | 0.0996      | <0.00199   | U F1          | mg/Kg |   | 0    | 70 - 130    | NC  | 35        |

| Surrogate                   | MSD %Recovery | MSD Qualifier | MSD Limits |
|-----------------------------|---------------|---------------|------------|
| 4-Bromofluorobenzene (Surr) | 86            |               | 70 - 130   |
| 1,4-Difluorobenzene (Surr)  | 89            |               | 70 - 130   |

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-41626/1-A  
Matrix: Solid  
Analysis Batch: 41693

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 41626

| Analyte                              | MB Result | MB Qualifier | RL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|-----------|--------------|------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0     | U            | 50.0 | mg/Kg |   | 12/12/22 11:03 | 12/13/22 19:51 | 1       |

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### QC Sample Results

Client: Ensolum  
Project/Site: JAMES A WATERFLOOD

Job ID: 890-3605-1  
SDG: Lea County NM

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

**Lab Sample ID: MB 880-41626/1-A**  
**Matrix: Solid**  
**Analysis Batch: 41693**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 41626**

| Analyte                              | MB        | MB        | RL       | Unit           | D              | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|-----------|-----------|----------|----------------|----------------|----------------|----------------|---------|
|                                      | Result    | Qualifier |          |                |                |                |                |         |
| Diesel Range Organics (Over C10-C28) | <50.0     | U         | 50.0     | mg/Kg          |                | 12/12/22 11:03 | 12/13/22 19:51 | 1       |
| Oil Range Organics (Over C28-C36)    | <50.0     | U         | 50.0     | mg/Kg          |                | 12/12/22 11:03 | 12/13/22 19:51 | 1       |
| Surrogate                            | MB        | MB        | Limits   | Prepared       | Analyzed       | Dil Fac        |                |         |
|                                      | %Recovery | Qualifier |          |                |                |                |                |         |
| 1-Chlorooctane                       | 152       | S1+       | 70 - 130 | 12/12/22 11:03 | 12/13/22 19:51 | 1              |                |         |
| o-Terphenyl                          | 207       | S1+       | 70 - 130 | 12/12/22 11:03 | 12/13/22 19:51 | 1              |                |         |

**Lab Sample ID: LCS 880-41626/2-A**  
**Matrix: Solid**  
**Analysis Batch: 41693**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 41626**

| Analyte                              | Spike Added | LCS Result | LCS Qualifier | Unit | D  | %Rec     | Limits |
|--------------------------------------|-------------|------------|---------------|------|----|----------|--------|
|                                      |             |            |               |      |    |          |        |
| Diesel Range Organics (Over C10-C28) | 1000        | 825.1      | mg/Kg         |      | 83 | 70 - 130 |        |
| Surrogate                            | LCS         | LCS        | Limits        |      |    |          |        |
|                                      | %Recovery   | Qualifier  |               |      |    |          |        |
| 1-Chlorooctane                       | 102         |            | 70 - 130      |      |    |          |        |
| o-Terphenyl                          | 116         |            | 70 - 130      |      |    |          |        |

**Lab Sample ID: LCSD 880-41626/3-A**  
**Matrix: Solid**  
**Analysis Batch: 41693**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 41626**

| Analyte                              | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | Limits   | RPD |       |
|--------------------------------------|-------------|-------------|----------------|------|---|------|----------|-----|-------|
|                                      |             |             |                |      |   |      |          | RPD | Limit |
| Gasoline Range Organics (GRO)-C6-C10 | 1000        | 928.5       | mg/Kg          |      |   | 93   | 70 - 130 | 13  | 20    |
| Diesel Range Organics (Over C10-C28) | 1000        | 910.5       | mg/Kg          |      |   | 91   | 70 - 130 | 10  | 20    |
| Surrogate                            | LCSD        | LCSD        | Limits         |      |   |      |          |     |       |
|                                      | %Recovery   | Qualifier   |                |      |   |      |          |     |       |
| 1-Chlorooctane                       | 114         |             | 70 - 130       |      |   |      |          |     |       |
| o-Terphenyl                          | 127         |             | 70 - 130       |      |   |      |          |     |       |

**Lab Sample ID: 890-3605-1 MS**  
**Matrix: Solid**  
**Analysis Batch: 41693**

**Client Sample ID: BH04**  
**Prep Type: Total/NA**  
**Prep Batch: 41626**

| Analyte                              | Sample    | Sample    | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | Limits   |
|--------------------------------------|-----------|-----------|-------------|-----------|--------------|------|---|------|----------|
|                                      | Result    | Qualifier |             |           |              |      |   |      |          |
| Gasoline Range Organics (GRO)-C6-C10 | <50.0     | U         | 999         | 939.4     | mg/Kg        |      |   | 92   | 70 - 130 |
| Diesel Range Organics (Over C10-C28) | <50.0     | U         | 999         | 1020      | mg/Kg        |      |   | 102  | 70 - 130 |
| Surrogate                            | MS        | MS        | Limits      |           |              |      |   |      |          |
|                                      | %Recovery | Qualifier |             |           |              |      |   |      |          |
| 1-Chlorooctane                       | 104       |           | 70 - 130    |           |              |      |   |      |          |
| o-Terphenyl                          | 91        |           | 70 - 130    |           |              |      |   |      |          |

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### QC Sample Results

Client: Ensolum  
Project/Site: JAMES A WATERFLOOD

Job ID: 890-3605-1  
SDG: Lea County NM

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 890-3605-1 MSD  
Matrix: Solid  
Analysis Batch: 41693

Client Sample ID: BH04  
Prep Type: Total/NA  
Prep Batch: 41626

| Analyte                              | Sample Result    | Sample Qualifier     | Spike Added | MSD Result    | MSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|--------------------------------------|------------------|----------------------|-------------|---------------|---------------|-------|---|------|-------------|-----|-----------|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0            | U                    | 997         | 910.9         |               | mg/Kg |   | 89   | 70 - 130    | 3   | 20        |
| Diesel Range Organics (Over C10-C28) | <50.0            | U                    | 997         | 1037          |               | mg/Kg |   | 104  | 70 - 130    | 2   | 20        |
| <b>Surrogate</b>                     | <b>%Recovery</b> | <b>MSD Qualifier</b> | <b>MSD</b>  | <b>Limits</b> |               |       |   |      |             |     |           |
| 1-Chlorooctane                       | 94               |                      |             | 70 - 130      |               |       |   |      |             |     |           |
| o-Terphenyl                          | 93               |                      |             | 70 - 130      |               |       |   |      |             |     |           |

#### Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41471/1-A  
Matrix: Solid  
Analysis Batch: 41738

Client Sample ID: Method Blank  
Prep Type: Soluble

| Analyte  | MB Result | MB Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|------|-------|---|----------|----------------|---------|
| Chloride | <5.00     | U            | 5.00 | mg/Kg |   |          | 12/14/22 08:09 | 1       |

Lab Sample ID: LCS 880-41471/2-A  
Matrix: Solid  
Analysis Batch: 41738

Client Sample ID: Lab Control Sample  
Prep Type: Soluble

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec Limits |
|----------|-------------|------------|---------------|-------|---|------|-------------|
| Chloride | 250         | 254.3      |               | mg/Kg |   | 102  | 90 - 110    |

Lab Sample ID: LCSD 880-41471/3-A  
Matrix: Solid  
Analysis Batch: 41738

Client Sample ID: Lab Control Sample Dup  
Prep Type: Soluble

| Analyte  | Spike Added | LCSD Result | LCSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|----------|-------------|-------------|----------------|-------|---|------|-------------|-----|-----------|
| Chloride | 250         | 268.2       |                | mg/Kg |   | 107  | 90 - 110    | 5   | 20        |

Lab Sample ID: 890-3603-A-1-B MS  
Matrix: Solid  
Analysis Batch: 41738

Client Sample ID: Matrix Spike  
Prep Type: Soluble

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit  | D | %Rec | %Rec Limits |
|----------|---------------|------------------|-------------|-----------|--------------|-------|---|------|-------------|
| Chloride | 146           |                  | 251         | 401.1     |              | mg/Kg |   | 102  | 90 - 110    |

Lab Sample ID: 890-3603-A-1-C MSD  
Matrix: Solid  
Analysis Batch: 41738

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Soluble

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|----------|---------------|------------------|-------------|------------|---------------|-------|---|------|-------------|-----|-----------|
| Chloride | 146           |                  | 251         | 406.4      |               | mg/Kg |   | 104  | 90 - 110    | 1   | 20        |

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## QC Association Summary

Client: Ensolum  
Project/Site: JAMES A WATERFLOOD

Job ID: 890-3605-1  
SDG: Lea County NM

## GC VOA

## Prep Batch: 41938

| Lab Sample ID    | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|------------------|-----------|--------|--------|------------|
| MB 880-41938/5-A | Method Blank     | Total/NA  | Solid  | 5035   |            |

## Prep Batch: 41943

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3605-1         | BH04                   | Total/NA  | Solid  | 5035   |            |
| 890-3605-2         | BH04                   | Total/NA  | Solid  | 5035   |            |
| MB 880-41943/5-A   | Method Blank           | Total/NA  | Solid  | 5035   |            |
| LCS 880-41943/1-A  | Lab Control Sample     | Total/NA  | Solid  | 5035   |            |
| LCSD 880-41943/2-A | Lab Control Sample Dup | Total/NA  | Solid  | 5035   |            |
| 890-3601-A-1-C MS  | Matrix Spike           | Total/NA  | Solid  | 5035   |            |
| 890-3601-A-1-D MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 5035   |            |

## Analysis Batch: 41993

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3605-1         | BH04                   | Total/NA  | Solid  | 8021B  | 41943      |
| 890-3605-2         | BH04                   | Total/NA  | Solid  | 8021B  | 41943      |
| MB 880-41938/5-A   | Method Blank           | Total/NA  | Solid  | 8021B  | 41938      |
| MB 880-41943/5-A   | Method Blank           | Total/NA  | Solid  | 8021B  | 41943      |
| LCS 880-41943/1-A  | Lab Control Sample     | Total/NA  | Solid  | 8021B  | 41943      |
| LCSD 880-41943/2-A | Lab Control Sample Dup | Total/NA  | Solid  | 8021B  | 41943      |
| 890-3601-A-1-C MS  | Matrix Spike           | Total/NA  | Solid  | 8021B  | 41943      |
| 890-3601-A-1-D MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8021B  | 41943      |

## Analysis Batch: 42252

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method     | Prep Batch |
|---------------|------------------|-----------|--------|------------|------------|
| 890-3605-1    | BH04             | Total/NA  | Solid  | Total BTEX |            |
| 890-3605-2    | BH04             | Total/NA  | Solid  | Total BTEX |            |

## GC Semi VOA

## Prep Batch: 41626

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method      | Prep Batch |
|--------------------|------------------------|-----------|--------|-------------|------------|
| 890-3605-1         | BH04                   | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3605-2         | BH04                   | Total/NA  | Solid  | 8015NM Prep |            |
| MB 880-41626/1-A   | Method Blank           | Total/NA  | Solid  | 8015NM Prep |            |
| LCS 880-41626/2-A  | Lab Control Sample     | Total/NA  | Solid  | 8015NM Prep |            |
| LCSD 880-41626/3-A | Lab Control Sample Dup | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3605-1 MS      | BH04                   | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3605-1 MSD     | BH04                   | Total/NA  | Solid  | 8015NM Prep |            |

## Analysis Batch: 41693

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 890-3605-1         | BH04                   | Total/NA  | Solid  | 8015B NM | 41626      |
| 890-3605-2         | BH04                   | Total/NA  | Solid  | 8015B NM | 41626      |
| MB 880-41626/1-A   | Method Blank           | Total/NA  | Solid  | 8015B NM | 41626      |
| LCS 880-41626/2-A  | Lab Control Sample     | Total/NA  | Solid  | 8015B NM | 41626      |
| LCSD 880-41626/3-A | Lab Control Sample Dup | Total/NA  | Solid  | 8015B NM | 41626      |
| 890-3605-1 MS      | BH04                   | Total/NA  | Solid  | 8015B NM | 41626      |
| 890-3605-1 MSD     | BH04                   | Total/NA  | Solid  | 8015B NM | 41626      |

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## QC Association Summary

Client: Ensolum  
Project/Site: JAMES A WATERFLOOD

Job ID: 890-3605-1  
SDG: Lea County NM

## GC Semi VOA

## Analysis Batch: 41813

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method  | Prep Batch |
|---------------|------------------|-----------|--------|---------|------------|
| 890-3605-1    | BH04             | Total/NA  | Solid  | 8015 NM |            |
| 890-3605-2    | BH04             | Total/NA  | Solid  | 8015 NM |            |

## HPLC/IC

## Leach Batch: 41471

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 890-3605-1         | BH04                   | Soluble   | Solid  | DI Leach |            |
| 890-3605-2         | BH04                   | Soluble   | Solid  | DI Leach |            |
| MB 880-41471/1-A   | Method Blank           | Soluble   | Solid  | DI Leach |            |
| LCS 880-41471/2-A  | Lab Control Sample     | Soluble   | Solid  | DI Leach |            |
| LCSD 880-41471/3-A | Lab Control Sample Dup | Soluble   | Solid  | DI Leach |            |
| 890-3603-A-1-B MS  | Matrix Spike           | Soluble   | Solid  | DI Leach |            |
| 890-3603-A-1-C MSD | Matrix Spike Duplicate | Soluble   | Solid  | DI Leach |            |

## Analysis Batch: 41738

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3605-1         | BH04                   | Soluble   | Solid  | 300.0  | 41471      |
| 890-3605-2         | BH04                   | Soluble   | Solid  | 300.0  | 41471      |
| MB 880-41471/1-A   | Method Blank           | Soluble   | Solid  | 300.0  | 41471      |
| LCS 880-41471/2-A  | Lab Control Sample     | Soluble   | Solid  | 300.0  | 41471      |
| LCSD 880-41471/3-A | Lab Control Sample Dup | Soluble   | Solid  | 300.0  | 41471      |
| 890-3603-A-1-B MS  | Matrix Spike           | Soluble   | Solid  | 300.0  | 41471      |
| 890-3603-A-1-C MSD | Matrix Spike Duplicate | Soluble   | Solid  | 300.0  | 41471      |

### Lab Chronicle

Client: Ensolum  
 Project/Site: JAMES A WATERFLOOD

Job ID: 890-3605-1  
 SDG: Lea County NM

**Client Sample ID: BH04**

**Lab Sample ID: 890-3605-1**

Date Collected: 12/06/22 13:00

Matrix: Solid

Date Received: 12/08/22 11:20

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 5035         |     |            | 4.97 g         | 5 mL         | 41943        | 12/15/22 15:22       | MNR     | EET MID |
| Total/NA  | Analysis   | 8021B        |     | 1          | 5 mL           | 5 mL         | 41993        | 12/17/22 15:04       | MNR     | EET MID |
| Total/NA  | Analysis   | Total BTEX   |     | 1          |                |              | 42252        | 12/19/22 16:21       | SM      | EET MID |
| Total/NA  | Analysis   | 8015 NM      |     | 1          |                |              | 41813        | 12/14/22 12:15       | SM      | EET MID |
| Total/NA  | Prep       | 8015NM Prep  |     |            | 10.01 g        | 10 mL        | 41626        | 12/12/22 11:03       | DM      | EET MID |
| Total/NA  | Analysis   | 8015B NM     |     | 1          | 1 uL           | 1 uL         | 41693        | 12/13/22 20:58       | SM      | EET MID |
| Soluble   | Leach      | DI Leach     |     |            | 4.96 g         | 50 mL        | 41471        | 12/09/22 13:16       | KS      | EET MID |
| Soluble   | Analysis   | 300.0        |     | 1          |                |              | 41738        | 12/14/22 10:56       | CH      | EET MID |

**Client Sample ID: BH04**

**Lab Sample ID: 890-3605-2**

Date Collected: 12/06/22 13:30

Matrix: Solid

Date Received: 12/08/22 11:20

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 5035         |     |            | 4.98 g         | 5 mL         | 41943        | 12/15/22 15:22       | MNR     | EET MID |
| Total/NA  | Analysis   | 8021B        |     | 1          | 5 mL           | 5 mL         | 41993        | 12/17/22 15:25       | MNR     | EET MID |
| Total/NA  | Analysis   | Total BTEX   |     | 1          |                |              | 42252        | 12/19/22 16:21       | SM      | EET MID |
| Total/NA  | Analysis   | 8015 NM      |     | 1          |                |              | 41813        | 12/14/22 12:15       | SM      | EET MID |
| Total/NA  | Prep       | 8015NM Prep  |     |            | 10.02 g        | 10 mL        | 41626        | 12/12/22 11:03       | DM      | EET MID |
| Total/NA  | Analysis   | 8015B NM     |     | 1          | 1 uL           | 1 uL         | 41693        | 12/13/22 22:04       | SM      | EET MID |
| Soluble   | Leach      | DI Leach     |     |            | 4.98 g         | 50 mL        | 41471        | 12/09/22 13:16       | KS      | EET MID |
| Soluble   | Analysis   | 300.0        |     | 1          |                |              | 41738        | 12/14/22 11:02       | CH      | EET MID |

**Laboratory References:**

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

### Accreditation/Certification Summary

Client: Ensolum  
Project/Site: JAMES A WATERFLOOD

Job ID: 890-3605-1  
SDG: Lea County NM

#### Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority | Program | Identification Number | Expiration Date |
|-----------|---------|-----------------------|-----------------|
| Texas     | NELAP   | T104704400-22-24      | 06-30-23        |

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

| Analysis Method | Prep Method | Matrix | Analyte    |
|-----------------|-------------|--------|------------|
| 8015 NM         |             | Solid  | Total TPH  |
| Total BTEX      |             | Solid  | Total BTEX |

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

### Method Summary

Client: Ensolum  
 Project/Site: JAMES A WATERFLOOD

Job ID: 890-3605-1  
 SDG: Lea County NM

| Method      | Method Description                 | Protocol | Laboratory |
|-------------|------------------------------------|----------|------------|
| 8021B       | Volatile Organic Compounds (GC)    | SW846    | EET MID    |
| Total BTEX  | Total BTEX Calculation             | TAL SOP  | EET MID    |
| 8015 NM     | Diesel Range Organics (DRO) (GC)   | SW846    | EET MID    |
| 8015B NM    | Diesel Range Organics (DRO) (GC)   | SW846    | EET MID    |
| 300.0       | Anions, Ion Chromatography         | MCAWW    | EET MID    |
| 5035        | Closed System Purge and Trap       | SW846    | EET MID    |
| 8015NM Prep | Microextraction                    | SW846    | EET MID    |
| DI Leach    | Deionized Water Leaching Procedure | ASTM     | EET MID    |

**Protocol References:**

- ASTM = ASTM International
- MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

- EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440



### Sample Summary

Client: Ensolum  
Project/Site: JAMES A WATERFLOOD

Job ID: 890-3605-1  
SDG: Lea County NM

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| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       | Depth |
|---------------|------------------|--------|----------------|----------------|-------|
| 890-3605-1    | BH04             | Solid  | 12/06/22 13:00 | 12/08/22 11:20 | 1     |
| 890-3605-2    | BH04             | Solid  | 12/06/22 13:30 | 12/08/22 11:20 | 4     |

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### Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3605-1  
SDG Number: Lea County NM

**Login Number: 3605**  
**List Number: 1**  
**Creator: Clifton, Cloe**

**List Source: Eurofins Carlsbad**

| Question   | Answer | Comment                             |
|--|--------|-------------------------------------|
| The cooler's custody seal, if present, is intact.                                | True   |                                     |
| Sample custody seals, if present, are intact.                                    | True   |                                     |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |                                     |
| Samples were received on ice.  | True   |                                     |
| Cooler Temperature is acceptable.  | True   |                                     |
| Cooler Temperature is recorded.  | True   |                                     |
| COC is present.  | True   |                                     |
| COC is filled out in ink and legible.  | True   |                                     |
| COC is filled out with all pertinent information.                                | True   |                                     |
| Is the Field Sampler's name present on COC?                                      | True   |                                     |
| There are no discrepancies between the containers received and the COC.          | True   |                                     |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |                                     |
| Sample containers have legible labels.   | True   |                                     |
| Containers are not broken or leaking.  | True   |                                     |
| Sample collection date/times are provided.                                       | True   |                                     |
| Appropriate sample containers are used.  | N/A    | Refer to Job Narrative for details. |
| Sample bottles are completely filled.  | True   |                                     |
| Sample Preservation Verified.  | N/A    |                                     |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |                                     |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | N/A    |                                     |

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### Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3605-1  
SDG Number: Lea County NM

**Login Number: 3605**  
**List Number: 2**  
**Creator: Rodriguez, Leticia**

**List Source: Eurofins Midland**  
**List Creation: 12/09/22 11:39 AM**

| Question   | Answer | Comment |
|--|--------|---------|
| The cooler's custody seal, if present, is intact.                                | N/A    |         |
| Sample custody seals, if present, are intact.                                    | N/A    |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.  | True   |         |
| Cooler Temperature is acceptable.  | True   |         |
| Cooler Temperature is recorded.  | True   |         |
| COC is present.  | True   |         |
| COC is filled out in ink and legible.  | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | True   |         |
| There are no discrepancies between the containers received and the COC.          | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |         |
| Sample containers have legible labels.   | True   |         |
| Containers are not broken or leaking.  | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.  | True   |         |
| Sample bottles are completely filled.  | True   |         |
| Sample Preservation Verified.  | N/A    |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | N/A    |         |

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Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Kalei Jennings  
 Ensolum  
 601 N. Marienfeld St.  
 Suite 400  
 Midland, Texas 79701

Generated 12/19/2022 4:41:43 PM

## JOB DESCRIPTION

James A Waterflood  
 SDG NUMBER Lea County NM

## JOB NUMBER

890-3606-1

Eurofins Carlsbad  
 1089 N Canal St.  
 Carlsbad NM 88220



# Eurofins Carlsbad

## Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

## Authorization



Generated  
12/19/2022 4:41:43 PM

Authorized for release by  
Jessica Kramer, Project Manager  
[Jessica.Kramer@et.eurofinsus.com](mailto:Jessica.Kramer@et.eurofinsus.com)  
(432)704-5440

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Client: Ensolum  
Project/Site: James A Waterflood

Laboratory Job ID: 890-3606-1  
SDG: Lea County NM

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## Definitions/Glossary

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3606-1  
SDG: Lea County NM

## Qualifiers

## GC VOA

| Qualifier | Qualifier Description                                    |
|-----------|--|
| F1        | MS and/or MSD recovery exceeds control limits.           |
| F2        | MS/MSD RPD exceeds control limits                        |
| U         | Indicates the analyte was analyzed for but not detected. |

## GC Semi VOA

| Qualifier | Qualifier Description                                    |
|-----------|--|
| S1+       | Surrogate recovery exceeds control limits, high biased.  |
| U         | Indicates the analyte was analyzed for but not detected. |

## HPLC/IC

| Qualifier | Qualifier Description                                    |
|-----------|--|
| F1        | MS and/or MSD recovery exceeds control limits.           |
| U         | Indicates the analyte was analyzed for but not detected. |

## Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| α              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CFU            | Colony Forming Unit   |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MCL            | EPA recommended "Maximum Contaminant Level"   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| MPN            | Most Probable Number  |
| MQL            | Method Quantitation Limit   |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| NEG            | Negative / Absent   |
| POS            | Positive / Present  |
| PQL            | Practical Quantitation Limit  |
| PRES           | Presumptive   |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |
| TNTC           | Too Numerous To Count   |

### Case Narrative

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3606-1  
SDG: Lea County NM

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**Job ID: 890-3606-1**

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**Laboratory: Eurofins Carlsbad****Narrative**

---

**Job Narrative  
890-3606-1****Receipt**

The samples were received on 12/8/2022 11:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

**Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: BH03 (890-3606-1) and BH03 (890-3606-2).

**GC VOA**

Method 8021B: The following samples were diluted due to the nature of the sample matrix: (890-3601-A-1-C MS) and (890-3601-A-1-D MSD). Because of this dilution, the surrogate spike and matrix spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

**GC Semi VOA**

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-41626 and analytical batch 880-41693 was outside the upper control limits.

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: (890-3605-A-1-B). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

**HPLC/IC**

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-41479 and analytical batch 880-41945 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.



### Client Sample Results

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3606-1  
SDG: Lea County NM

**Client Sample ID: BH03**

**Lab Sample ID: 890-3606-1**

Date Collected: 12/06/22 12:30

Matrix: Solid

Date Received: 12/08/22 11:20

Sample Depth: 1

**Method: SW846 8021B - Volatile Organic Compounds (GC)**

| Analyte             | Result   | Qualifier | RL      | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|----------|-----------|---------|-------|---|----------------|----------------|---------|
| Benzene             | <0.00198 | U         | 0.00198 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 15:45 | 1       |
| Toluene             | <0.00198 | U         | 0.00198 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 15:45 | 1       |
| Ethylbenzene        | <0.00198 | U         | 0.00198 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 15:45 | 1       |
| m-Xylene & p-Xylene | <0.00396 | U         | 0.00396 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 15:45 | 1       |
| o-Xylene            | <0.00198 | U         | 0.00198 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 15:45 | 1       |
| Xylenes, Total      | <0.00396 | U         | 0.00396 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 15:45 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 104       |           | 70 - 130 | 12/15/22 15:22 | 12/17/22 15:45 | 1       |
| 1,4-Difluorobenzene (Surr)  | 93        |           | 70 - 130 | 12/15/22 15:22 | 12/17/22 15:45 | 1       |

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

| Analyte    | Result   | Qualifier | RL      | Unit  | D | Prepared | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-------|---|----------|----------------|---------|
| Total BTEX | <0.00396 | U         | 0.00396 | mg/Kg |   |          | 12/19/22 16:21 | 1       |

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

| Analyte   | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Total TPH | 56.9   |           | 49.9 | mg/Kg |   |          | 12/14/22 12:15 | 1       |

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

| Analyte                              | Result | Qualifier | RL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|--------|-----------|------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9  | U         | 49.9 | mg/Kg |   | 12/12/22 11:03 | 12/13/22 22:26 | 1       |
| Diesel Range Organics (Over C10-C28) | 56.9   |           | 49.9 | mg/Kg |   | 12/12/22 11:03 | 12/13/22 22:26 | 1       |
| Oil Range Organics (Over C28-C36)    | <49.9  | U         | 49.9 | mg/Kg |   | 12/12/22 11:03 | 12/13/22 22:26 | 1       |

| Surrogate      | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------|-----------|-----------|----------|----------------|----------------|---------|
| 1-Chlorooctane | 117       |           | 70 - 130 | 12/12/22 11:03 | 12/13/22 22:26 | 1       |
| o-Terphenyl    | 118       |           | 70 - 130 | 12/12/22 11:03 | 12/13/22 22:26 | 1       |

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

| Analyte  | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Chloride | 506    | F1        | 5.03 | mg/Kg |   |          | 12/16/22 02:29 | 1       |

**Client Sample ID: BH03**

**Lab Sample ID: 890-3606-2**

Date Collected: 12/06/22 12:45

Matrix: Solid

Date Received: 12/08/22 11:20

Sample Depth: 4

**Method: SW846 8021B - Volatile Organic Compounds (GC)**

| Analyte             | Result   | Qualifier | RL      | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|----------|-----------|---------|-------|---|----------------|----------------|---------|
| Benzene             | <0.00200 | U         | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 16:06 | 1       |
| Toluene             | <0.00200 | U         | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 16:06 | 1       |
| Ethylbenzene        | <0.00200 | U         | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 16:06 | 1       |
| m-Xylene & p-Xylene | <0.00401 | U         | 0.00401 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 16:06 | 1       |
| o-Xylene            | <0.00200 | U         | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 16:06 | 1       |
| Xylenes, Total      | <0.00401 | U         | 0.00401 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 16:06 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 110       |           | 70 - 130 | 12/15/22 15:22 | 12/17/22 16:06 | 1       |

Eurofins Carlsbad

### Client Sample Results

Client: Ensolum  
 Project/Site: James A Waterflood

Job ID: 890-3606-1  
 SDG: Lea County NM

**Client Sample ID: BH03**

**Lab Sample ID: 890-3606-2**

Date Collected: 12/06/22 12:45

Matrix: Solid

Date Received: 12/08/22 11:20

Sample Depth: 4

**Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)**

| Surrogate                  | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 1,4-Difluorobenzene (Surr) | 102       |           | 70 - 130 | 12/15/22 15:22 | 12/17/22 16:06 | 1       |

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

| Analyte    | Result   | Qualifier | RL      | Unit  | D | Prepared | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-------|---|----------|----------------|---------|
| Total BTEX | <0.00401 | U         | 0.00401 | mg/Kg |   |          | 12/19/22 16:21 | 1       |

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

| Analyte   | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Total TPH | 65.5   |           | 50.0 | mg/Kg |   |          | 12/14/22 12:15 | 1       |

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

| Analyte                                     | Result      | Qualifier | RL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---|-------------|-----------|------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10        | <50.0       | U         | 50.0 | mg/Kg |   | 12/12/22 11:03 | 12/13/22 22:48 | 1       |
| <b>Diesel Range Organics (Over C10-C28)</b> | <b>65.5</b> |           | 50.0 | mg/Kg |   | 12/12/22 11:03 | 12/13/22 22:48 | 1       |
| Oil Range Organics (Over C28-C36)           | <50.0       | U         | 50.0 | mg/Kg |   | 12/12/22 11:03 | 12/13/22 22:48 | 1       |

| Surrogate      | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------|-----------|-----------|----------|----------------|----------------|---------|
| 1-Chlorooctane | 114       |           | 70 - 130 | 12/12/22 11:03 | 12/13/22 22:48 | 1       |
| o-Terphenyl    | 112       |           | 70 - 130 | 12/12/22 11:03 | 12/13/22 22:48 | 1       |

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

| Analyte  | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Chloride | 542    |           | 4.97 | mg/Kg |   |          | 12/16/22 02:51 | 1       |

## Surrogate Summary

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3606-1  
SDG: Lea County NM

## Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

| Lab Sample ID      | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |                   |
|--------------------|------------------------|--|-------------------|
|                    |                        | BFB1<br>(70-130)                               | DFBZ1<br>(70-130) |
| 890-3601-A-1-C MS  | Matrix Spike           | 85   | 92                |
| 890-3601-A-1-D MSD | Matrix Spike Duplicate | 86   | 89                |
| 890-3606-1         | BH03                   | 104  | 93                |
| 890-3606-2         | BH03                   | 110  | 102               |
| LCS 880-41943/1-A  | Lab Control Sample     | 97   | 95                |
| LCSD 880-41943/2-A | Lab Control Sample Dup | 94   | 94                |
| MB 880-41938/5-A   | Method Blank           | 92   | 93                |
| MB 880-41943/5-A   | Method Blank           | 97   | 90                |

**Surrogate Legend**

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

| Lab Sample ID      | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |                   |
|--------------------|------------------------|--|-------------------|
|                    |                        | 1CO1<br>(70-130)                               | OTPH1<br>(70-130) |
| 890-3605-A-1-C MS  | Matrix Spike           | 104  | 91                |
| 890-3605-A-1-D MSD | Matrix Spike Duplicate | 94   | 93                |
| 890-3606-1         | BH03                   | 117  | 118               |
| 890-3606-2         | BH03                   | 114  | 112               |
| LCS 880-41626/2-A  | Lab Control Sample     | 102  | 116               |
| LCSD 880-41626/3-A | Lab Control Sample Dup | 114  | 127               |
| MB 880-41626/1-A   | Method Blank           | 152 S1+  | 207 S1+           |

**Surrogate Legend**

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

### QC Sample Results

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3606-1  
SDG: Lea County NM

#### Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-41938/5-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 41938

| Analyte             | MB Result | MB Qualifier | RL      | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|-----------|--------------|---------|-------|---|----------------|----------------|---------|
| Benzene             | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| Toluene             | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| Ethylbenzene        | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| m-Xylene & p-Xylene | <0.00400  | U            | 0.00400 | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| o-Xylene            | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| Xylenes, Total      | <0.00400  | U            | 0.00400 | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |

| Surrogate                   | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|--------------|--------------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 92           |              | 70 - 130 | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| 1,4-Difluorobenzene (Surr)  | 93           |              | 70 - 130 | 12/15/22 14:55 | 12/16/22 22:04 | 1       |

Lab Sample ID: MB 880-41943/5-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte             | MB Result | MB Qualifier | RL      | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|-----------|--------------|---------|-------|---|----------------|----------------|---------|
| Benzene             | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| Toluene             | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| Ethylbenzene        | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| m-Xylene & p-Xylene | <0.00400  | U            | 0.00400 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| o-Xylene            | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| Xylenes, Total      | <0.00400  | U            | 0.00400 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |

| Surrogate                   | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|--------------|--------------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 97           |              | 70 - 130 | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| 1,4-Difluorobenzene (Surr)  | 90           |              | 70 - 130 | 12/15/22 15:22 | 12/17/22 08:47 | 1       |

Lab Sample ID: LCS 880-41943/1-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte             | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec Limits |
|---------------------|-------------|------------|---------------|-------|---|------|-------------|
| Benzene             | 0.100       | 0.09030    |               | mg/Kg |   | 90   | 70 - 130    |
| Toluene             | 0.100       | 0.08409    |               | mg/Kg |   | 84   | 70 - 130    |
| Ethylbenzene        | 0.100       | 0.07938    |               | mg/Kg |   | 79   | 70 - 130    |
| m-Xylene & p-Xylene | 0.200       | 0.1705     |               | mg/Kg |   | 85   | 70 - 130    |
| o-Xylene            | 0.100       | 0.08759    |               | mg/Kg |   | 88   | 70 - 130    |

| Surrogate                   | LCS %Recovery | LCS Qualifier | Limits   |
|-----------------------------|---------------|---------------|----------|
| 4-Bromofluorobenzene (Surr) | 97            |               | 70 - 130 |
| 1,4-Difluorobenzene (Surr)  | 95            |               | 70 - 130 |

Lab Sample ID: LCSD 880-41943/2-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---------|-------------|-------------|----------------|-------|---|------|-------------|-----|-----------|
| Benzene | 0.100       | 0.09270     |                | mg/Kg |   | 93   | 70 - 130    | 3   | 35        |

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### QC Sample Results

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3606-1  
SDG: Lea County NM

#### Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-41943/2-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte             | Spike Added | LCSD Result | LCSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---------------------|-------------|-------------|----------------|-------|---|------|-------------|-----|-----------|
| Toluene             | 0.100       | 0.08517     |                | mg/Kg |   | 85   | 70 - 130    | 1   | 35        |
| Ethylbenzene        | 0.100       | 0.07903     |                | mg/Kg |   | 79   | 70 - 130    | 0   | 35        |
| m-Xylene & p-Xylene | 0.200       | 0.1679      |                | mg/Kg |   | 84   | 70 - 130    | 2   | 35        |
| o-Xylene            | 0.100       | 0.08660     |                | mg/Kg |   | 87   | 70 - 130    | 1   | 35        |

| Surrogate                   | LCSD %Recovery | LCSD Qualifier | LCSD Limits |
|-----------------------------|----------------|----------------|-------------|
| 4-Bromofluorobenzene (Surr) | 94             |                | 70 - 130    |
| 1,4-Difluorobenzene (Surr)  | 94             |                | 70 - 130    |

Lab Sample ID: 890-3601-A-1-C MS  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte             | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit  | D | %Rec | %Rec Limits |
|---------------------|---------------|------------------|-------------|-----------|--------------|-------|---|------|-------------|
| Benzene             | <0.00200      | U F2 F1          | 0.100       | <0.00200  | U F1         | mg/Kg |   | 1    | 70 - 130    |
| Toluene             | <0.00200      | U F1             | 0.100       | <0.00200  | U F1         | mg/Kg |   | 0.6  | 70 - 130    |
| Ethylbenzene        | <0.00200      | U F1             | 0.100       | <0.00200  | U F1         | mg/Kg |   | 0    | 70 - 130    |
| m-Xylene & p-Xylene | <0.00401      | U F1             | 0.200       | <0.00401  | U F1         | mg/Kg |   | 0.6  | 70 - 130    |
| o-Xylene            | <0.00200      | U F1             | 0.100       | <0.00200  | U F1         | mg/Kg |   | 0.5  | 70 - 130    |

| Surrogate                   | MS %Recovery | MS Qualifier | MS Limits |
|-----------------------------|--------------|--------------|-----------|
| 4-Bromofluorobenzene (Surr) | 85           |              | 70 - 130  |
| 1,4-Difluorobenzene (Surr)  | 92           |              | 70 - 130  |

Lab Sample ID: 890-3601-A-1-D MSD  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte             | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---------------------|---------------|------------------|-------------|------------|---------------|-------|---|------|-------------|-----|-----------|
| Benzene             | <0.00200      | U F2 F1          | 0.0996      | <0.00199   | U F2 F1       | mg/Kg |   | 0.4  | 70 - 130    | 113 | 35        |
| Toluene             | <0.00200      | U F1             | 0.0996      | <0.00199   | U F1          | mg/Kg |   | 0    | 70 - 130    | NC  | 35        |
| Ethylbenzene        | <0.00200      | U F1             | 0.0996      | <0.00199   | U F1          | mg/Kg |   | 0    | 70 - 130    | NC  | 35        |
| m-Xylene & p-Xylene | <0.00401      | U F1             | 0.199       | <0.00398   | U F1          | mg/Kg |   | 0    | 70 - 130    | NC  | 35        |
| o-Xylene            | <0.00200      | U F1             | 0.0996      | <0.00199   | U F1          | mg/Kg |   | 0    | 70 - 130    | NC  | 35        |

| Surrogate                   | MSD %Recovery | MSD Qualifier | MSD Limits |
|-----------------------------|---------------|---------------|------------|
| 4-Bromofluorobenzene (Surr) | 86            |               | 70 - 130   |
| 1,4-Difluorobenzene (Surr)  | 89            |               | 70 - 130   |

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-41626/1-A  
Matrix: Solid  
Analysis Batch: 41693

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 41626

| Analyte                              | MB Result | MB Qualifier | RL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|-----------|--------------|------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0     | U            | 50.0 | mg/Kg |   | 12/12/22 11:03 | 12/13/22 19:51 | 1       |

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### QC Sample Results

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3606-1  
SDG: Lea County NM

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

**Lab Sample ID: MB 880-41626/1-A**  
**Matrix: Solid**  
**Analysis Batch: 41693**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 41626**

| Analyte                              | MB MB     |           | RL       | Unit           | D              | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|-----------|-----------|----------|----------------|----------------|----------------|----------------|---------|
|                                      | Result    | Qualifier |          |                |                |                |                |         |
| Diesel Range Organics (Over C10-C28) | <50.0     | U         | 50.0     | mg/Kg          |                | 12/12/22 11:03 | 12/13/22 19:51 | 1       |
| Oil Range Organics (Over C28-C36)    | <50.0     | U         | 50.0     | mg/Kg          |                | 12/12/22 11:03 | 12/13/22 19:51 | 1       |
| Surrogate                            | MB MB     |           | Limits   | Prepared       | Analyzed       | Dil Fac        |                |         |
|                                      | %Recovery | Qualifier |          |                |                |                |                |         |
| 1-Chlorooctane                       | 152       | S1+       | 70 - 130 | 12/12/22 11:03 | 12/13/22 19:51 | 1              |                |         |
| o-Terphenyl                          | 207       | S1+       | 70 - 130 | 12/12/22 11:03 | 12/13/22 19:51 | 1              |                |         |

**Lab Sample ID: LCS 880-41626/2-A**  
**Matrix: Solid**  
**Analysis Batch: 41693**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 41626**

| Analyte                              | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | Limits   |
|--------------------------------------|-------------|------------|---------------|-------|---|------|----------|
|                                      |             |            |               |       |   |      |          |
| Diesel Range Organics (Over C10-C28) | 1000        | 825.1      |               | mg/Kg |   | 83   | 70 - 130 |
| Surrogate                            | LCS LCS     |            | Limits        |       |   |      |          |
|                                      | %Recovery   | Qualifier  |               |       |   |      |          |
| 1-Chlorooctane                       | 102         |            | 70 - 130      |       |   |      |          |
| o-Terphenyl                          | 116         |            | 70 - 130      |       |   |      |          |

**Lab Sample ID: LCSD 880-41626/3-A**  
**Matrix: Solid**  
**Analysis Batch: 41693**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 41626**

| Analyte                              | Spike Added | LCSD Result | LCSD Qualifier | Unit  | D | %Rec | Limits   | RPD |       |
|--------------------------------------|-------------|-------------|----------------|-------|---|------|----------|-----|-------|
|                                      |             |             |                |       |   |      |          | RPD | Limit |
| Gasoline Range Organics (GRO)-C6-C10 | 1000        | 928.5       |                | mg/Kg |   | 93   | 70 - 130 | 13  | 20    |
| Diesel Range Organics (Over C10-C28) | 1000        | 910.5       |                | mg/Kg |   | 91   | 70 - 130 | 10  | 20    |
| Surrogate                            | LCSD LCSD   |             | Limits         |       |   |      |          |     |       |
|                                      | %Recovery   | Qualifier   |                |       |   |      |          |     |       |
| 1-Chlorooctane                       | 114         |             | 70 - 130       |       |   |      |          |     |       |
| o-Terphenyl                          | 127         |             | 70 - 130       |       |   |      |          |     |       |

**Lab Sample ID: 890-3605-A-1-C MS**  
**Matrix: Solid**  
**Analysis Batch: 41693**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 41626**

| Analyte                              | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit  | D | %Rec | Limits   |
|--------------------------------------|---------------|------------------|-------------|-----------|--------------|-------|---|------|----------|
|                                      |               |                  |             |           |              |       |   |      |          |
| Diesel Range Organics (Over C10-C28) | <50.0         | U                | 999         | 1020      |              | mg/Kg |   | 102  | 70 - 130 |
| Surrogate                            | MS MS         |                  | Limits      |           |              |       |   |      |          |
|                                      | %Recovery     | Qualifier        |             |           |              |       |   |      |          |
| 1-Chlorooctane                       | 104           |                  | 70 - 130    |           |              |       |   |      |          |
| o-Terphenyl                          | 91            |                  | 70 - 130    |           |              |       |   |      |          |

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### QC Sample Results

Client: Ensolum  
 Project/Site: James A Waterflood

Job ID: 890-3606-1  
 SDG: Lea County NM

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 890-3605-A-1-D MSD  
 Matrix: Solid  
 Analysis Batch: 41693

Client Sample ID: Matrix Spike Duplicate  
 Prep Type: Total/NA  
 Prep Batch: 41626

| Analyte                              | Sample Result    | Sample Qualifier     | Spike Added | MSD Result        | MSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|--------------------------------------|------------------|----------------------|-------------|-------------------|---------------|-------|---|------|-------------|-----|-----------|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0            | U                    | 997         | 910.9             |               | mg/Kg |   | 89   | 70 - 130    | 3   | 20        |
| Diesel Range Organics (Over C10-C28) | <50.0            | U                    | 997         | 1037              |               | mg/Kg |   | 104  | 70 - 130    | 2   | 20        |
| <b>Surrogate</b>                     | <b>%Recovery</b> | <b>MSD Qualifier</b> |             | <b>MSD Limits</b> |               |       |   |      |             |     |           |
| 1-Chlorooctane                       | 94               |                      |             | 70 - 130          |               |       |   |      |             |     |           |
| o-Terphenyl                          | 93               |                      |             | 70 - 130          |               |       |   |      |             |     |           |

#### Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41479/1-A  
 Matrix: Solid  
 Analysis Batch: 41945

Client Sample ID: Method Blank  
 Prep Type: Soluble

| Analyte  | MB Result | MB Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|------|-------|---|----------|----------------|---------|
| Chloride | <5.00     | U            | 5.00 | mg/Kg |   |          | 12/16/22 02:07 | 1       |

Lab Sample ID: LCS 880-41479/2-A  
 Matrix: Solid  
 Analysis Batch: 41945

Client Sample ID: Lab Control Sample  
 Prep Type: Soluble

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec Limits |
|----------|-------------|------------|---------------|-------|---|------|-------------|
| Chloride | 250         | 253.5      |               | mg/Kg |   | 101  | 90 - 110    |

Lab Sample ID: LCSD 880-41479/3-A  
 Matrix: Solid  
 Analysis Batch: 41945

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Soluble

| Analyte  | Spike Added | LCSD Result | LCSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|----------|-------------|-------------|----------------|-------|---|------|-------------|-----|-----------|
| Chloride | 250         | 251.3       |                | mg/Kg |   | 101  | 90 - 110    | 1   | 20        |

Lab Sample ID: 890-3606-1 MS  
 Matrix: Solid  
 Analysis Batch: 41945

Client Sample ID: BH03  
 Prep Type: Soluble

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit  | D | %Rec | %Rec Limits |
|----------|---------------|------------------|-------------|-----------|--------------|-------|---|------|-------------|
| Chloride | 506           | F1               | 252         | 812.9     | F1           | mg/Kg |   | 82   | 90 - 110    |

Lab Sample ID: 890-3606-1 MSD  
 Matrix: Solid  
 Analysis Batch: 41945

Client Sample ID: BH03  
 Prep Type: Soluble

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|----------|---------------|------------------|-------------|------------|---------------|-------|---|------|-------------|-----|-----------|
| Chloride | 506           | F1               | 252         | 812.4      | F1            | mg/Kg |   | 82   | 90 - 110    | 0   | 20        |

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## QC Association Summary

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3606-1  
SDG: Lea County NM

## GC VOA

## Prep Batch: 41938

| Lab Sample ID    | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|------------------|-----------|--------|--------|------------|
| MB 880-41938/5-A | Method Blank     | Total/NA  | Solid  | 5035   |            |

## Prep Batch: 41943

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3606-1         | BH03                   | Total/NA  | Solid  | 5035   |            |
| 890-3606-2         | BH03                   | Total/NA  | Solid  | 5035   |            |
| MB 880-41943/5-A   | Method Blank           | Total/NA  | Solid  | 5035   |            |
| LCS 880-41943/1-A  | Lab Control Sample     | Total/NA  | Solid  | 5035   |            |
| LCSD 880-41943/2-A | Lab Control Sample Dup | Total/NA  | Solid  | 5035   |            |
| 890-3601-A-1-C MS  | Matrix Spike           | Total/NA  | Solid  | 5035   |            |
| 890-3601-A-1-D MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 5035   |            |

## Analysis Batch: 41993

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3606-1         | BH03                   | Total/NA  | Solid  | 8021B  | 41943      |
| 890-3606-2         | BH03                   | Total/NA  | Solid  | 8021B  | 41943      |
| MB 880-41938/5-A   | Method Blank           | Total/NA  | Solid  | 8021B  | 41938      |
| MB 880-41943/5-A   | Method Blank           | Total/NA  | Solid  | 8021B  | 41943      |
| LCS 880-41943/1-A  | Lab Control Sample     | Total/NA  | Solid  | 8021B  | 41943      |
| LCSD 880-41943/2-A | Lab Control Sample Dup | Total/NA  | Solid  | 8021B  | 41943      |
| 890-3601-A-1-C MS  | Matrix Spike           | Total/NA  | Solid  | 8021B  | 41943      |
| 890-3601-A-1-D MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8021B  | 41943      |

## Analysis Batch: 42253

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method     | Prep Batch |
|---------------|------------------|-----------|--------|------------|------------|
| 890-3606-1    | BH03             | Total/NA  | Solid  | Total BTEX |            |
| 890-3606-2    | BH03             | Total/NA  | Solid  | Total BTEX |            |

## GC Semi VOA

## Prep Batch: 41626

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method      | Prep Batch |
|--------------------|------------------------|-----------|--------|-------------|------------|
| 890-3606-1         | BH03                   | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3606-2         | BH03                   | Total/NA  | Solid  | 8015NM Prep |            |
| MB 880-41626/1-A   | Method Blank           | Total/NA  | Solid  | 8015NM Prep |            |
| LCS 880-41626/2-A  | Lab Control Sample     | Total/NA  | Solid  | 8015NM Prep |            |
| LCSD 880-41626/3-A | Lab Control Sample Dup | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3605-A-1-C MS  | Matrix Spike           | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3605-A-1-D MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8015NM Prep |            |

## Analysis Batch: 41693

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 890-3606-1         | BH03                   | Total/NA  | Solid  | 8015B NM | 41626      |
| 890-3606-2         | BH03                   | Total/NA  | Solid  | 8015B NM | 41626      |
| MB 880-41626/1-A   | Method Blank           | Total/NA  | Solid  | 8015B NM | 41626      |
| LCS 880-41626/2-A  | Lab Control Sample     | Total/NA  | Solid  | 8015B NM | 41626      |
| LCSD 880-41626/3-A | Lab Control Sample Dup | Total/NA  | Solid  | 8015B NM | 41626      |
| 890-3605-A-1-C MS  | Matrix Spike           | Total/NA  | Solid  | 8015B NM | 41626      |
| 890-3605-A-1-D MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8015B NM | 41626      |

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### QC Association Summary

Client: Ensolum  
 Project/Site: James A Waterflood

Job ID: 890-3606-1  
 SDG: Lea County NM

#### GC Semi VOA

##### Analysis Batch: 41814

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method  | Prep Batch |
|---------------|------------------|-----------|--------|---------|------------|
| 890-3606-1    | BH03             | Total/NA  | Solid  | 8015 NM |            |
| 890-3606-2    | BH03             | Total/NA  | Solid  | 8015 NM |            |

#### HPLC/IC

##### Leach Batch: 41479

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 890-3606-1         | BH03                   | Soluble   | Solid  | DI Leach |            |
| 890-3606-2         | BH03                   | Soluble   | Solid  | DI Leach |            |
| MB 880-41479/1-A   | Method Blank           | Soluble   | Solid  | DI Leach |            |
| LCS 880-41479/2-A  | Lab Control Sample     | Soluble   | Solid  | DI Leach |            |
| LCSD 880-41479/3-A | Lab Control Sample Dup | Soluble   | Solid  | DI Leach |            |
| 890-3606-1 MS      | BH03                   | Soluble   | Solid  | DI Leach |            |
| 890-3606-1 MSD     | BH03                   | Soluble   | Solid  | DI Leach |            |

##### Analysis Batch: 41945

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3606-1         | BH03                   | Soluble   | Solid  | 300.0  | 41479      |
| 890-3606-2         | BH03                   | Soluble   | Solid  | 300.0  | 41479      |
| MB 880-41479/1-A   | Method Blank           | Soluble   | Solid  | 300.0  | 41479      |
| LCS 880-41479/2-A  | Lab Control Sample     | Soluble   | Solid  | 300.0  | 41479      |
| LCSD 880-41479/3-A | Lab Control Sample Dup | Soluble   | Solid  | 300.0  | 41479      |
| 890-3606-1 MS      | BH03                   | Soluble   | Solid  | 300.0  | 41479      |
| 890-3606-1 MSD     | BH03                   | Soluble   | Solid  | 300.0  | 41479      |

### Lab Chronicle

Client: Ensolum  
 Project/Site: James A Waterflood

Job ID: 890-3606-1  
 SDG: Lea County NM

**Client Sample ID: BH03**

**Lab Sample ID: 890-3606-1**

Date Collected: 12/06/22 12:30

Matrix: Solid

Date Received: 12/08/22 11:20

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 5035         |     |            | 5.05 g         | 5 mL         | 41943        | 12/15/22 15:22       | MNR     | EET MID |
| Total/NA  | Analysis   | 8021B        |     | 1          | 5 mL           | 5 mL         | 41993        | 12/17/22 15:45       | MNR     | EET MID |
| Total/NA  | Analysis   | Total BTEX   |     | 1          |                |              | 42253        | 12/19/22 16:21       | SM      | EET MID |
| Total/NA  | Analysis   | 8015 NM      |     | 1          |                |              | 41814        | 12/14/22 12:15       | SM      | EET MID |
| Total/NA  | Prep       | 8015NM Prep  |     |            | 10.02 g        | 10 mL        | 41626        | 12/12/22 11:03       | DM      | EET MID |
| Total/NA  | Analysis   | 8015B NM     |     | 1          | 1 uL           | 1 uL         | 41693        | 12/13/22 22:26       | SM      | EET MID |
| Soluble   | Leach      | DI Leach     |     |            | 4.97 g         | 50 mL        | 41479        | 12/09/22 13:24       | KS      | EET MID |
| Soluble   | Analysis   | 300.0        |     | 1          | 50 mL          | 50 mL        | 41945        | 12/16/22 02:29       | CH      | EET MID |

**Client Sample ID: BH03**

**Lab Sample ID: 890-3606-2**

Date Collected: 12/06/22 12:45

Matrix: Solid

Date Received: 12/08/22 11:20

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 5035         |     |            | 4.99 g         | 5 mL         | 41943        | 12/15/22 15:22       | MNR     | EET MID |
| Total/NA  | Analysis   | 8021B        |     | 1          | 5 mL           | 5 mL         | 41993        | 12/17/22 16:06       | MNR     | EET MID |
| Total/NA  | Analysis   | Total BTEX   |     | 1          |                |              | 42253        | 12/19/22 16:21       | SM      | EET MID |
| Total/NA  | Analysis   | 8015 NM      |     | 1          |                |              | 41814        | 12/14/22 12:15       | SM      | EET MID |
| Total/NA  | Prep       | 8015NM Prep  |     |            | 10.00 g        | 10 mL        | 41626        | 12/12/22 11:03       | DM      | EET MID |
| Total/NA  | Analysis   | 8015B NM     |     | 1          | 1 uL           | 1 uL         | 41693        | 12/13/22 22:48       | SM      | EET MID |
| Soluble   | Leach      | DI Leach     |     |            | 5.03 g         | 50 mL        | 41479        | 12/09/22 13:24       | KS      | EET MID |
| Soluble   | Analysis   | 300.0        |     | 1          | 50 mL          | 50 mL        | 41945        | 12/16/22 02:51       | CH      | EET MID |

**Laboratory References:**

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

### Accreditation/Certification Summary

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3606-1  
SDG: Lea County NM

#### Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority | Program | Identification Number | Expiration Date |
|-----------|---------|-----------------------|-----------------|
| Texas     | NELAP   | T104704400-22-24      | 06-30-23        |

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

| Analysis Method | Prep Method | Matrix | Analyte    |
|-----------------|-------------|--------|------------|
| 8015 NM         |             | Solid  | Total TPH  |
| Total BTEX      |             | Solid  | Total BTEX |

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### Method Summary

Client: Ensolum  
 Project/Site: James A Waterflood

Job ID: 890-3606-1  
 SDG: Lea County NM

| Method      | Method Description                 | Protocol | Laboratory |
|-------------|------------------------------------|----------|------------|
| 8021B       | Volatile Organic Compounds (GC)    | SW846    | EET MID    |
| Total BTEX  | Total BTEX Calculation             | TAL SOP  | EET MID    |
| 8015 NM     | Diesel Range Organics (DRO) (GC)   | SW846    | EET MID    |
| 8015B NM    | Diesel Range Organics (DRO) (GC)   | SW846    | EET MID    |
| 300.0       | Anions, Ion Chromatography         | MCAWW    | EET MID    |
| 5035        | Closed System Purge and Trap       | SW846    | EET MID    |
| 8015NM Prep | Microextraction                    | SW846    | EET MID    |
| DI Leach    | Deionized Water Leaching Procedure | ASTM     | EET MID    |

**Protocol References:**

- ASTM = ASTM International
- MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

- EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440



### Sample Summary

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3606-1  
SDG: Lea County NM

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| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       | Depth |
|---------------|------------------|--------|----------------|----------------|-------|
| 890-3606-1    | BH03             | Solid  | 12/06/22 12:30 | 12/08/22 11:20 | 1     |
| 890-3606-2    | BH03             | Solid  | 12/06/22 12:45 | 12/08/22 11:20 | 4     |

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### Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3606-1  
SDG Number: Lea County NM

**Login Number: 3606**  
**List Number: 1**  
**Creator: Clifton, Cloe**

**List Source: Eurofins Carlsbad**

| Question   | Answer | Comment                             |
|--|--------|-------------------------------------|
| The cooler's custody seal, if present, is intact.                                | True   |                                     |
| Sample custody seals, if present, are intact.                                    | True   |                                     |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |                                     |
| Samples were received on ice.  | True   |                                     |
| Cooler Temperature is acceptable.  | True   |                                     |
| Cooler Temperature is recorded.  | True   |                                     |
| COC is present.  | True   |                                     |
| COC is filled out in ink and legible.  | True   |                                     |
| COC is filled out with all pertinent information.                                | True   |                                     |
| Is the Field Sampler's name present on COC?                                      | True   |                                     |
| There are no discrepancies between the containers received and the COC.          | True   |                                     |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |                                     |
| Sample containers have legible labels.   | True   |                                     |
| Containers are not broken or leaking.  | True   |                                     |
| Sample collection date/times are provided.                                       | True   |                                     |
| Appropriate sample containers are used.  | N/A    | Refer to Job Narrative for details. |
| Sample bottles are completely filled.  | True   |                                     |
| Sample Preservation Verified.  | N/A    |                                     |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |                                     |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | N/A    |                                     |

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### Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3606-1  
SDG Number: Lea County NM

**Login Number: 3606**  
**List Number: 2**  
**Creator: Rodriguez, Leticia**

**List Source: Eurofins Midland**  
**List Creation: 12/09/22 11:39 AM**

| Question   | Answer | Comment |
|--|--------|---------|
| The cooler's custody seal, if present, is intact.                                | N/A    |         |
| Sample custody seals, if present, are intact.                                    | N/A    |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.  | True   |         |
| Cooler Temperature is acceptable.  | True   |         |
| Cooler Temperature is recorded.  | True   |         |
| COC is present.  | True   |         |
| COC is filled out in ink and legible.  | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | True   |         |
| There are no discrepancies between the containers received and the COC.          | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |         |
| Sample containers have legible labels.   | True   |         |
| Containers are not broken or leaking.  | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.  | True   |         |
| Sample bottles are completely filled.  | True   |         |
| Sample Preservation Verified.  | N/A    |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | N/A    |         |

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Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Kalei Jennings  
 Ensolum  
 601 N. Marienfeld St.  
 Suite 400  
 Midland, Texas 79701

Generated 12/19/2022 4:42:00 PM

## JOB DESCRIPTION

James A Waterflood  
 SDG NUMBER Lea County NM

## JOB NUMBER

890-3607-1

Eurofins Carlsbad  
 1089 N Canal St.  
 Carlsbad NM 88220



# Eurofins Carlsbad

## Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

## Authorization



Generated  
12/19/2022 4:42:00 PM

Authorized for release by  
Jessica Kramer, Project Manager  
[Jessica.Kramer@et.eurofinsus.com](mailto:Jessica.Kramer@et.eurofinsus.com)  
(432)704-5440

Client: Ensolum  
Project/Site: James A Waterflood

Laboratory Job ID: 890-3607-1  
SDG: Lea County NM

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## Definitions/Glossary

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3607-1  
SDG: Lea County NM

## Qualifiers

## GC VOA

| Qualifier | Qualifier Description                                    |
|-----------|--|
| F1        | MS and/or MSD recovery exceeds control limits.           |
| F2        | MS/MSD RPD exceeds control limits                        |
| U         | Indicates the analyte was analyzed for but not detected. |

## GC Semi VOA

| Qualifier | Qualifier Description                                    |
|-----------|--|
| S1+       | Surrogate recovery exceeds control limits, high biased.  |
| U         | Indicates the analyte was analyzed for but not detected. |

## HPLC/IC

| Qualifier | Qualifier Description                                    |
|-----------|--|
| F1        | MS and/or MSD recovery exceeds control limits.           |
| U         | Indicates the analyte was analyzed for but not detected. |

## Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| α              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CFU            | Colony Forming Unit   |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MCL            | EPA recommended "Maximum Contaminant Level"   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| MPN            | Most Probable Number  |
| MQL            | Method Quantitation Limit   |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| NEG            | Negative / Absent   |
| POS            | Positive / Present  |
| PQL            | Practical Quantitation Limit  |
| PRES           | Presumptive   |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |
| TNTC           | Too Numerous To Count   |

### Case Narrative

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3607-1  
SDG: Lea County NM

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**Job ID: 890-3607-1**

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**Laboratory: Eurofins Carlsbad****Narrative**

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**Job Narrative  
890-3607-1**

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**Receipt**

The samples were received on 12/8/2022 11:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

**Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: BH02 (890-3607-1) and BH02 (890-3607-2).

**GC VOA**

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-41943 and analytical batch 880-41993 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

**GC Semi VOA**

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-41626 and analytical batch 880-41693 was outside the upper control limits.

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: (890-3605-A-1-B). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

**HPLC/IC**

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-41479 and analytical batch 880-41945 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.



### Client Sample Results

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3607-1  
SDG: Lea County NM

**Client Sample ID: BH02**

**Lab Sample ID: 890-3607-1**

Date Collected: 12/06/22 12:15

Matrix: Solid

Date Received: 12/08/22 11:20

Sample Depth: 1

**Method: SW846 8021B - Volatile Organic Compounds (GC)**

| Analyte             | Result   | Qualifier | RL      | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|----------|-----------|---------|-------|---|----------------|----------------|---------|
| Benzene             | <0.00199 | U         | 0.00199 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 16:27 | 1       |
| Toluene             | <0.00199 | U         | 0.00199 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 16:27 | 1       |
| Ethylbenzene        | <0.00199 | U         | 0.00199 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 16:27 | 1       |
| m-Xylene & p-Xylene | <0.00398 | U         | 0.00398 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 16:27 | 1       |
| o-Xylene            | <0.00199 | U         | 0.00199 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 16:27 | 1       |
| Xylenes, Total      | <0.00398 | U         | 0.00398 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 16:27 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 115       |           | 70 - 130 | 12/15/22 15:22 | 12/17/22 16:27 | 1       |
| 1,4-Difluorobenzene (Surr)  | 105       |           | 70 - 130 | 12/15/22 15:22 | 12/17/22 16:27 | 1       |

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

| Analyte    | Result   | Qualifier | RL      | Unit  | D | Prepared | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-------|---|----------|----------------|---------|
| Total BTEX | <0.00398 | U         | 0.00398 | mg/Kg |   |          | 12/19/22 16:21 | 1       |

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

| Analyte   | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Total TPH | <49.9  | U         | 49.9 | mg/Kg |   |          | 12/14/22 12:15 | 1       |

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

| Analyte                              | Result | Qualifier | RL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|--------|-----------|------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9  | U         | 49.9 | mg/Kg |   | 12/12/22 11:03 | 12/13/22 23:10 | 1       |
| Diesel Range Organics (Over C10-C28) | <49.9  | U         | 49.9 | mg/Kg |   | 12/12/22 11:03 | 12/13/22 23:10 | 1       |
| Oil Range Organics (Over C28-C36)    | <49.9  | U         | 49.9 | mg/Kg |   | 12/12/22 11:03 | 12/13/22 23:10 | 1       |

| Surrogate      | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------|-----------|-----------|----------|----------------|----------------|---------|
| 1-Chlorooctane | 112       |           | 70 - 130 | 12/12/22 11:03 | 12/13/22 23:10 | 1       |
| o-Terphenyl    | 111       |           | 70 - 130 | 12/12/22 11:03 | 12/13/22 23:10 | 1       |

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

| Analyte  | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Chloride | 5.94   |           | 4.97 | mg/Kg |   |          | 12/16/22 02:58 | 1       |

**Client Sample ID: BH02**

**Lab Sample ID: 890-3607-2**

Date Collected: 12/06/22 12:25

Matrix: Solid

Date Received: 12/08/22 11:20

Sample Depth: 4

**Method: SW846 8021B - Volatile Organic Compounds (GC)**

| Analyte             | Result   | Qualifier | RL      | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|----------|-----------|---------|-------|---|----------------|----------------|---------|
| Benzene             | <0.00199 | U         | 0.00199 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 16:47 | 1       |
| Toluene             | <0.00199 | U         | 0.00199 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 16:47 | 1       |
| Ethylbenzene        | <0.00199 | U         | 0.00199 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 16:47 | 1       |
| m-Xylene & p-Xylene | <0.00398 | U         | 0.00398 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 16:47 | 1       |
| o-Xylene            | <0.00199 | U         | 0.00199 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 16:47 | 1       |
| Xylenes, Total      | <0.00398 | U         | 0.00398 | mg/Kg |   | 12/15/22 15:22 | 12/17/22 16:47 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 121       |           | 70 - 130 | 12/15/22 15:22 | 12/17/22 16:47 | 1       |

Eurofins Carlsbad

### Client Sample Results

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3607-1  
SDG: Lea County NM

**Client Sample ID: BH02**

**Lab Sample ID: 890-3607-2**

Date Collected: 12/06/22 12:25

Matrix: Solid

Date Received: 12/08/22 11:20

Sample Depth: 4

**Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)**

| Surrogate                  | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 1,4-Difluorobenzene (Surr) | 102       |           | 70 - 130 | 12/15/22 15:22 | 12/17/22 16:47 | 1       |

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

| Analyte    | Result   | Qualifier | RL      | Unit  | D | Prepared | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-------|---|----------|----------------|---------|
| Total BTEX | <0.00398 | U         | 0.00398 | mg/Kg |   |          | 12/19/22 16:21 | 1       |

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

| Analyte   | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Total TPH | <50.0  | U         | 50.0 | mg/Kg |   |          | 12/14/22 12:15 | 1       |

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

| Analyte                              | Result | Qualifier | RL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|--------|-----------|------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0  | U         | 50.0 | mg/Kg |   | 12/12/22 11:03 | 12/13/22 23:32 | 1       |
| Diesel Range Organics (Over C10-C28) | <50.0  | U         | 50.0 | mg/Kg |   | 12/12/22 11:03 | 12/13/22 23:32 | 1       |
| Oil Range Organics (Over C28-C36)    | <50.0  | U         | 50.0 | mg/Kg |   | 12/12/22 11:03 | 12/13/22 23:32 | 1       |

| Surrogate      | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------|-----------|-----------|----------|----------------|----------------|---------|
| 1-Chlorooctane | 128       |           | 70 - 130 | 12/12/22 11:03 | 12/13/22 23:32 | 1       |
| o-Terphenyl    | 123       |           | 70 - 130 | 12/12/22 11:03 | 12/13/22 23:32 | 1       |

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

| Analyte  | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Chloride | 35.4   |           | 4.98 | mg/Kg |   |          | 12/16/22 03:05 | 1       |

## Surrogate Summary

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3607-1  
SDG: Lea County NM

## Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

| Lab Sample ID      | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |                   |
|--------------------|------------------------|--|-------------------|
|                    |                        | BFB1<br>(70-130)                               | DFBZ1<br>(70-130) |
| 890-3601-A-1-C MS  | Matrix Spike           | 85   | 92                |
| 890-3601-A-1-D MSD | Matrix Spike Duplicate | 86   | 89                |
| 890-3607-1         | BH02                   | 115  | 105               |
| 890-3607-2         | BH02                   | 121  | 102               |
| LCS 880-41943/1-A  | Lab Control Sample     | 97   | 95                |
| LCSD 880-41943/2-A | Lab Control Sample Dup | 94   | 94                |
| MB 880-41938/5-A   | Method Blank           | 92   | 93                |
| MB 880-41943/5-A   | Method Blank           | 97   | 90                |

**Surrogate Legend**

BFB = 4-Bromofluorobenzene (Surr)  
DFBZ = 1,4-Difluorobenzene (Surr)

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

| Lab Sample ID      | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |                   |
|--------------------|------------------------|--|-------------------|
|                    |                        | 1CO1<br>(70-130)                               | OTPH1<br>(70-130) |
| 890-3605-A-1-C MS  | Matrix Spike           | 104  | 91                |
| 890-3605-A-1-D MSD | Matrix Spike Duplicate | 94   | 93                |
| 890-3607-1         | BH02                   | 112  | 111               |
| 890-3607-2         | BH02                   | 128  | 123               |
| LCS 880-41626/2-A  | Lab Control Sample     | 102  | 116               |
| LCSD 880-41626/3-A | Lab Control Sample Dup | 114  | 127               |
| MB 880-41626/1-A   | Method Blank           | 152 S1+  | 207 S1+           |

**Surrogate Legend**

1CO = 1-Chlorooctane  
OTPH = o-Terphenyl

### QC Sample Results

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3607-1  
SDG: Lea County NM

#### Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-41938/5-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 41938

| Analyte                     | MB        | MB        | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|-------|---|----------------|----------------|---------|
|                             | Result    | Qualifier |          |       |   |                |                |         |
| Benzene                     | <0.00200  | U         | 0.00200  | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| Toluene                     | <0.00200  | U         | 0.00200  | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| Ethylbenzene                | <0.00200  | U         | 0.00200  | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| m-Xylene & p-Xylene         | <0.00400  | U         | 0.00400  | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| o-Xylene                    | <0.00200  | U         | 0.00200  | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| Xylenes, Total              | <0.00400  | U         | 0.00400  | mg/Kg |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| Surrogate                   | MB        | MB        | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
|                             | %Recovery | Qualifier |          |       |   |                |                |         |
| 4-Bromofluorobenzene (Surr) | 92        |           | 70 - 130 |       |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |
| 1,4-Difluorobenzene (Surr)  | 93        |           | 70 - 130 |       |   | 12/15/22 14:55 | 12/16/22 22:04 | 1       |

Lab Sample ID: MB 880-41943/5-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte                     | MB        | MB        | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|-------|---|----------------|----------------|---------|
|                             | Result    | Qualifier |          |       |   |                |                |         |
| Benzene                     | <0.00200  | U         | 0.00200  | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| Toluene                     | <0.00200  | U         | 0.00200  | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| Ethylbenzene                | <0.00200  | U         | 0.00200  | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| m-Xylene & p-Xylene         | <0.00400  | U         | 0.00400  | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| o-Xylene                    | <0.00200  | U         | 0.00200  | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| Xylenes, Total              | <0.00400  | U         | 0.00400  | mg/Kg |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| Surrogate                   | MB        | MB        | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
|                             | %Recovery | Qualifier |          |       |   |                |                |         |
| 4-Bromofluorobenzene (Surr) | 97        |           | 70 - 130 |       |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |
| 1,4-Difluorobenzene (Surr)  | 90        |           | 70 - 130 |       |   | 12/15/22 15:22 | 12/17/22 08:47 | 1       |

Lab Sample ID: LCS 880-41943/1-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte                     | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec      | %Rec Limits |
|-----------------------------|-------------|------------|---------------|-------|---|-----------|-------------|
|                             |             |            |               |       |   |           |             |
| Toluene                     | 0.100       | 0.08409    |               | mg/Kg |   | 84        | 70 - 130    |
| Ethylbenzene                | 0.100       | 0.07938    |               | mg/Kg |   | 79        | 70 - 130    |
| m-Xylene & p-Xylene         | 0.200       | 0.1705     |               | mg/Kg |   | 85        | 70 - 130    |
| o-Xylene                    | 0.100       | 0.08759    |               | mg/Kg |   | 88        | 70 - 130    |
| Surrogate                   | LCS         | LCS        | Limits        |       |   | %Recovery | Qualifier   |
|                             |             |            |               |       |   |           |             |
| 4-Bromofluorobenzene (Surr) |             | 97         | 70 - 130      |       |   |           |             |
| 1,4-Difluorobenzene (Surr)  |             | 95         | 70 - 130      |       |   |           |             |

Lab Sample ID: LCSD 880-41943/2-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD |       |
|---------|-------------|-------------|----------------|-------|---|------|-------------|-----|-------|
|         |             |             |                |       |   |      |             | RPD | Limit |
| Benzene | 0.100       | 0.09270     |                | mg/Kg |   | 93   | 70 - 130    | 3   | 35    |

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### QC Sample Results

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3607-1  
SDG: Lea County NM

#### Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: LCSD 880-41943/2-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte             | Spike Added | LCSD Result | LCSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---------------------|-------------|-------------|----------------|-------|---|------|-------------|-----|-----------|
| Toluene             | 0.100       | 0.08517     |                | mg/Kg |   | 85   | 70 - 130    | 1   | 35        |
| Ethylbenzene        | 0.100       | 0.07903     |                | mg/Kg |   | 79   | 70 - 130    | 0   | 35        |
| m-Xylene & p-Xylene | 0.200       | 0.1679      |                | mg/Kg |   | 84   | 70 - 130    | 2   | 35        |
| o-Xylene            | 0.100       | 0.08660     |                | mg/Kg |   | 87   | 70 - 130    | 1   | 35        |

| Surrogate                   | LCSD %Recovery | LCSD Qualifier | LCSD Limits |
|-----------------------------|----------------|----------------|-------------|
| 4-Bromofluorobenzene (Surr) | 94             |                | 70 - 130    |
| 1,4-Difluorobenzene (Surr)  | 94             |                | 70 - 130    |

Lab Sample ID: 890-3601-A-1-C MS  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte             | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit  | D | %Rec | %Rec Limits |
|---------------------|---------------|------------------|-------------|-----------|--------------|-------|---|------|-------------|
| Benzene             | <0.00200      | U F2 F1          | 0.100       | <0.00200  | U F1         | mg/Kg |   | 1    | 70 - 130    |
| Toluene             | <0.00200      | U F1             | 0.100       | <0.00200  | U F1         | mg/Kg |   | 0.6  | 70 - 130    |
| Ethylbenzene        | <0.00200      | U F1             | 0.100       | <0.00200  | U F1         | mg/Kg |   | 0    | 70 - 130    |
| m-Xylene & p-Xylene | <0.00401      | U F1             | 0.200       | <0.00401  | U F1         | mg/Kg |   | 0.6  | 70 - 130    |
| o-Xylene            | <0.00200      | U F1             | 0.100       | <0.00200  | U F1         | mg/Kg |   | 0.5  | 70 - 130    |

| Surrogate                   | MS %Recovery | MS Qualifier | MS Limits |
|-----------------------------|--------------|--------------|-----------|
| 4-Bromofluorobenzene (Surr) | 85           |              | 70 - 130  |
| 1,4-Difluorobenzene (Surr)  | 92           |              | 70 - 130  |

Lab Sample ID: 890-3601-A-1-D MSD  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 41943

| Analyte             | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---------------------|---------------|------------------|-------------|------------|---------------|-------|---|------|-------------|-----|-----------|
| Benzene             | <0.00200      | U F2 F1          | 0.0996      | <0.00199   | U F2 F1       | mg/Kg |   | 0.4  | 70 - 130    | 113 | 35        |
| Toluene             | <0.00200      | U F1             | 0.0996      | <0.00199   | U F1          | mg/Kg |   | 0    | 70 - 130    | NC  | 35        |
| Ethylbenzene        | <0.00200      | U F1             | 0.0996      | <0.00199   | U F1          | mg/Kg |   | 0    | 70 - 130    | NC  | 35        |
| m-Xylene & p-Xylene | <0.00401      | U F1             | 0.199       | <0.00398   | U F1          | mg/Kg |   | 0    | 70 - 130    | NC  | 35        |
| o-Xylene            | <0.00200      | U F1             | 0.0996      | <0.00199   | U F1          | mg/Kg |   | 0    | 70 - 130    | NC  | 35        |

| Surrogate                   | MSD %Recovery | MSD Qualifier | MSD Limits |
|-----------------------------|---------------|---------------|------------|
| 4-Bromofluorobenzene (Surr) | 86            |               | 70 - 130   |
| 1,4-Difluorobenzene (Surr)  | 89            |               | 70 - 130   |

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-41626/1-A  
Matrix: Solid  
Analysis Batch: 41693

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 41626

| Analyte                              | MB Result | MB Qualifier | RL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|-----------|--------------|------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0     | U            | 50.0 | mg/Kg |   | 12/12/22 11:03 | 12/13/22 19:51 | 1       |

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### QC Sample Results

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3607-1  
SDG: Lea County NM

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

**Lab Sample ID: MB 880-41626/1-A**  
**Matrix: Solid**  
**Analysis Batch: 41693**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 41626**

| Analyte                              | MB        | MB        | RL       | Unit           | D              | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|-----------|-----------|----------|----------------|----------------|----------------|----------------|---------|
|                                      | Result    | Qualifier |          |                |                |                |                |         |
| Diesel Range Organics (Over C10-C28) | <50.0     | U         | 50.0     | mg/Kg          |                | 12/12/22 11:03 | 12/13/22 19:51 | 1       |
| Oil Range Organics (Over C28-C36)    | <50.0     | U         | 50.0     | mg/Kg          |                | 12/12/22 11:03 | 12/13/22 19:51 | 1       |
| Surrogate                            | MB        | MB        | Limits   | Prepared       | Analyzed       | Dil Fac        |                |         |
|                                      | %Recovery | Qualifier |          |                |                |                |                |         |
| 1-Chlorooctane                       | 152       | S1+       | 70 - 130 | 12/12/22 11:03 | 12/13/22 19:51 | 1              |                |         |
| o-Terphenyl                          | 207       | S1+       | 70 - 130 | 12/12/22 11:03 | 12/13/22 19:51 | 1              |                |         |

**Lab Sample ID: LCS 880-41626/2-A**  
**Matrix: Solid**  
**Analysis Batch: 41693**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 41626**

| Analyte                              | Spike Added | LCS Result | LCS Qualifier | Unit | D  | %Rec     | Limits |
|--------------------------------------|-------------|------------|---------------|------|----|----------|--------|
|                                      |             |            |               |      |    |          |        |
| Diesel Range Organics (Over C10-C28) | 1000        | 825.1      | mg/Kg         |      | 83 | 70 - 130 |        |
| Surrogate                            | LCS         | LCS        | Limits        |      |    |          |        |
|                                      | %Recovery   | Qualifier  |               |      |    |          |        |
| 1-Chlorooctane                       | 102         |            | 70 - 130      |      |    |          |        |
| o-Terphenyl                          | 116         |            | 70 - 130      |      |    |          |        |

**Lab Sample ID: LCSD 880-41626/3-A**  
**Matrix: Solid**  
**Analysis Batch: 41693**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 41626**

| Analyte                              | Spike Added | LCSD Result | LCSD Qualifier | Unit | D  | %Rec     | Limits | RPD | Limit |
|--------------------------------------|-------------|-------------|----------------|------|----|----------|--------|-----|-------|
|                                      |             |             |                |      |    |          |        |     |       |
| Diesel Range Organics (Over C10-C28) | 1000        | 910.5       | mg/Kg          |      | 91 | 70 - 130 | 10     | 20  |       |
| Surrogate                            | LCSD        | LCSD        | Limits         |      |    |          |        |     |       |
|                                      | %Recovery   | Qualifier   |                |      |    |          |        |     |       |
| 1-Chlorooctane                       | 114         |             | 70 - 130       |      |    |          |        |     |       |
| o-Terphenyl                          | 127         |             | 70 - 130       |      |    |          |        |     |       |

**Lab Sample ID: 890-3605-A-1-C MS**  
**Matrix: Solid**  
**Analysis Batch: 41693**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 41626**

| Analyte                              | Sample    | Sample    | Spike Added | MS Result | MS Qualifier | Unit | D   | %Rec     | Limits |
|--------------------------------------|-----------|-----------|-------------|-----------|--------------|------|-----|----------|--------|
|                                      | Result    | Qualifier |             |           |              |      |     |          |        |
| Gasoline Range Organics (GRO)-C6-C10 | <50.0     | U         | 999         | 939.4     | mg/Kg        |      | 92  | 70 - 130 |        |
| Diesel Range Organics (Over C10-C28) | <50.0     | U         | 999         | 1020      | mg/Kg        |      | 102 | 70 - 130 |        |
| Surrogate                            | MS        | MS        | Limits      |           |              |      |     |          |        |
|                                      | %Recovery | Qualifier |             |           |              |      |     |          |        |
| 1-Chlorooctane                       | 104       |           | 70 - 130    |           |              |      |     |          |        |
| o-Terphenyl                          | 91        |           | 70 - 130    |           |              |      |     |          |        |

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### QC Sample Results

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3607-1  
SDG: Lea County NM

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 890-3605-A-1-D MSD  
Matrix: Solid  
Analysis Batch: 41693

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 41626

| Analyte                              | Sample Result    | Sample Qualifier     | Spike Added | MSD Result        | MSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|--------------------------------------|------------------|----------------------|-------------|-------------------|---------------|-------|---|------|-------------|-----|-----------|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0            | U                    | 997         | 910.9             |               | mg/Kg |   | 89   | 70 - 130    | 3   | 20        |
| Diesel Range Organics (Over C10-C28) | <50.0            | U                    | 997         | 1037              |               | mg/Kg |   | 104  | 70 - 130    | 2   | 20        |
| <b>Surrogate</b>                     | <b>%Recovery</b> | <b>MSD Qualifier</b> |             | <b>MSD Limits</b> |               |       |   |      |             |     |           |
| 1-Chlorooctane                       | 94               |                      |             | 70 - 130          |               |       |   |      |             |     |           |
| o-Terphenyl                          | 93               |                      |             | 70 - 130          |               |       |   |      |             |     |           |

#### Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-41479/1-A  
Matrix: Solid  
Analysis Batch: 41945

Client Sample ID: Method Blank  
Prep Type: Soluble

| Analyte  | MB Result | MB Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|------|-------|---|----------|----------------|---------|
| Chloride | <5.00     | U            | 5.00 | mg/Kg |   |          | 12/16/22 02:07 | 1       |

Lab Sample ID: LCS 880-41479/2-A  
Matrix: Solid  
Analysis Batch: 41945

Client Sample ID: Lab Control Sample  
Prep Type: Soluble

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec Limits |
|----------|-------------|------------|---------------|-------|---|------|-------------|
| Chloride | 250         | 253.5      |               | mg/Kg |   | 101  | 90 - 110    |

Lab Sample ID: LCSD 880-41479/3-A  
Matrix: Solid  
Analysis Batch: 41945

Client Sample ID: Lab Control Sample Dup  
Prep Type: Soluble

| Analyte  | Spike Added | LCSD Result | LCSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|----------|-------------|-------------|----------------|-------|---|------|-------------|-----|-----------|
| Chloride | 250         | 251.3       |                | mg/Kg |   | 101  | 90 - 110    | 1   | 20        |

Lab Sample ID: 890-3606-A-1-C MS  
Matrix: Solid  
Analysis Batch: 41945

Client Sample ID: Matrix Spike  
Prep Type: Soluble

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit  | D | %Rec | %Rec Limits |
|----------|---------------|------------------|-------------|-----------|--------------|-------|---|------|-------------|
| Chloride | 606           | F1               | 252         | 812.9     | F1           | mg/Kg |   | 82   | 90 - 110    |

Lab Sample ID: 890-3606-A-1-D MSD  
Matrix: Solid  
Analysis Batch: 41945

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Soluble

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|----------|---------------|------------------|-------------|------------|---------------|-------|---|------|-------------|-----|-----------|
| Chloride | 606           | F1               | 252         | 812.4      | F1            | mg/Kg |   | 82   | 90 - 110    | 0   | 20        |

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## QC Association Summary

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3607-1  
SDG: Lea County NM

## GC VOA

## Prep Batch: 41938

| Lab Sample ID    | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|------------------|-----------|--------|--------|------------|
| MB 880-41938/5-A | Method Blank     | Total/NA  | Solid  | 5035   |            |

## Prep Batch: 41943

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3607-1         | BH02                   | Total/NA  | Solid  | 5035   |            |
| 890-3607-2         | BH02                   | Total/NA  | Solid  | 5035   |            |
| MB 880-41943/5-A   | Method Blank           | Total/NA  | Solid  | 5035   |            |
| LCS 880-41943/1-A  | Lab Control Sample     | Total/NA  | Solid  | 5035   |            |
| LCSD 880-41943/2-A | Lab Control Sample Dup | Total/NA  | Solid  | 5035   |            |
| 890-3601-A-1-C MS  | Matrix Spike           | Total/NA  | Solid  | 5035   |            |
| 890-3601-A-1-D MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 5035   |            |

## Analysis Batch: 41993

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3607-1         | BH02                   | Total/NA  | Solid  | 8021B  | 41943      |
| 890-3607-2         | BH02                   | Total/NA  | Solid  | 8021B  | 41943      |
| MB 880-41938/5-A   | Method Blank           | Total/NA  | Solid  | 8021B  | 41938      |
| MB 880-41943/5-A   | Method Blank           | Total/NA  | Solid  | 8021B  | 41943      |
| LCS 880-41943/1-A  | Lab Control Sample     | Total/NA  | Solid  | 8021B  | 41943      |
| LCSD 880-41943/2-A | Lab Control Sample Dup | Total/NA  | Solid  | 8021B  | 41943      |
| 890-3601-A-1-C MS  | Matrix Spike           | Total/NA  | Solid  | 8021B  | 41943      |
| 890-3601-A-1-D MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8021B  | 41943      |

## Analysis Batch: 42254

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method     | Prep Batch |
|---------------|------------------|-----------|--------|------------|------------|
| 890-3607-1    | BH02             | Total/NA  | Solid  | Total BTEX |            |
| 890-3607-2    | BH02             | Total/NA  | Solid  | Total BTEX |            |

## GC Semi VOA

## Prep Batch: 41626

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method      | Prep Batch |
|--------------------|------------------------|-----------|--------|-------------|------------|
| 890-3607-1         | BH02                   | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3607-2         | BH02                   | Total/NA  | Solid  | 8015NM Prep |            |
| MB 880-41626/1-A   | Method Blank           | Total/NA  | Solid  | 8015NM Prep |            |
| LCS 880-41626/2-A  | Lab Control Sample     | Total/NA  | Solid  | 8015NM Prep |            |
| LCSD 880-41626/3-A | Lab Control Sample Dup | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3605-A-1-C MS  | Matrix Spike           | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3605-A-1-D MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8015NM Prep |            |

## Analysis Batch: 41693

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 890-3607-1         | BH02                   | Total/NA  | Solid  | 8015B NM | 41626      |
| 890-3607-2         | BH02                   | Total/NA  | Solid  | 8015B NM | 41626      |
| MB 880-41626/1-A   | Method Blank           | Total/NA  | Solid  | 8015B NM | 41626      |
| LCS 880-41626/2-A  | Lab Control Sample     | Total/NA  | Solid  | 8015B NM | 41626      |
| LCSD 880-41626/3-A | Lab Control Sample Dup | Total/NA  | Solid  | 8015B NM | 41626      |
| 890-3605-A-1-C MS  | Matrix Spike           | Total/NA  | Solid  | 8015B NM | 41626      |
| 890-3605-A-1-D MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8015B NM | 41626      |

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## QC Association Summary

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3607-1  
SDG: Lea County NM

## GC Semi VOA

## Analysis Batch: 41815

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method  | Prep Batch |
|---------------|------------------|-----------|--------|---------|------------|
| 890-3607-1    | BH02             | Total/NA  | Solid  | 8015 NM |            |
| 890-3607-2    | BH02             | Total/NA  | Solid  | 8015 NM |            |

## HPLC/IC

## Leach Batch: 41479

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 890-3607-1         | BH02                   | Soluble   | Solid  | DI Leach |            |
| 890-3607-2         | BH02                   | Soluble   | Solid  | DI Leach |            |
| MB 880-41479/1-A   | Method Blank           | Soluble   | Solid  | DI Leach |            |
| LCS 880-41479/2-A  | Lab Control Sample     | Soluble   | Solid  | DI Leach |            |
| LCSD 880-41479/3-A | Lab Control Sample Dup | Soluble   | Solid  | DI Leach |            |
| 890-3606-A-1-C MS  | Matrix Spike           | Soluble   | Solid  | DI Leach |            |
| 890-3606-A-1-D MSD | Matrix Spike Duplicate | Soluble   | Solid  | DI Leach |            |

## Analysis Batch: 41945

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3607-1         | BH02                   | Soluble   | Solid  | 300.0  | 41479      |
| 890-3607-2         | BH02                   | Soluble   | Solid  | 300.0  | 41479      |
| MB 880-41479/1-A   | Method Blank           | Soluble   | Solid  | 300.0  | 41479      |
| LCS 880-41479/2-A  | Lab Control Sample     | Soluble   | Solid  | 300.0  | 41479      |
| LCSD 880-41479/3-A | Lab Control Sample Dup | Soluble   | Solid  | 300.0  | 41479      |
| 890-3606-A-1-C MS  | Matrix Spike           | Soluble   | Solid  | 300.0  | 41479      |
| 890-3606-A-1-D MSD | Matrix Spike Duplicate | Soluble   | Solid  | 300.0  | 41479      |

### Lab Chronicle

Client: Ensolum  
 Project/Site: James A Waterflood

Job ID: 890-3607-1  
 SDG: Lea County NM

**Client Sample ID: BH02**

**Lab Sample ID: 890-3607-1**

Date Collected: 12/06/22 12:15

Matrix: Solid

Date Received: 12/08/22 11:20

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 5035         |     |            | 5.02 g         | 5 mL         | 41943        | 12/15/22 15:22       | MNR     | EET MID |
| Total/NA  | Analysis   | 8021B        |     | 1          | 5 mL           | 5 mL         | 41993        | 12/17/22 16:27       | MNR     | EET MID |
| Total/NA  | Analysis   | Total BTEX   |     | 1          |                |              | 42254        | 12/19/22 16:21       | SM      | EET MID |
| Total/NA  | Analysis   | 8015 NM      |     | 1          |                |              | 41815        | 12/14/22 12:15       | SM      | EET MID |
| Total/NA  | Prep       | 8015NM Prep  |     |            | 10.03 g        | 10 mL        | 41626        | 12/12/22 11:03       | DM      | EET MID |
| Total/NA  | Analysis   | 8015B NM     |     | 1          | 1 uL           | 1 uL         | 41693        | 12/13/22 23:10       | SM      | EET MID |
| Soluble   | Leach      | DI Leach     |     |            | 5.03 g         | 50 mL        | 41479        | 12/09/22 13:24       | KS      | EET MID |
| Soluble   | Analysis   | 300.0        |     | 1          | 50 mL          | 50 mL        | 41945        | 12/16/22 02:58       | CH      | EET MID |

**Client Sample ID: BH02**

**Lab Sample ID: 890-3607-2**

Date Collected: 12/06/22 12:25

Matrix: Solid

Date Received: 12/08/22 11:20

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 5035         |     |            | 5.03 g         | 5 mL         | 41943        | 12/15/22 15:22       | MNR     | EET MID |
| Total/NA  | Analysis   | 8021B        |     | 1          | 5 mL           | 5 mL         | 41993        | 12/17/22 16:47       | MNR     | EET MID |
| Total/NA  | Analysis   | Total BTEX   |     | 1          |                |              | 42254        | 12/19/22 16:21       | SM      | EET MID |
| Total/NA  | Analysis   | 8015 NM      |     | 1          |                |              | 41815        | 12/14/22 12:15       | SM      | EET MID |
| Total/NA  | Prep       | 8015NM Prep  |     |            | 10.01 g        | 10 mL        | 41626        | 12/12/22 11:03       | DM      | EET MID |
| Total/NA  | Analysis   | 8015B NM     |     | 1          | 1 uL           | 1 uL         | 41693        | 12/13/22 23:32       | SM      | EET MID |
| Soluble   | Leach      | DI Leach     |     |            | 5.02 g         | 50 mL        | 41479        | 12/09/22 13:24       | KS      | EET MID |
| Soluble   | Analysis   | 300.0        |     | 1          | 50 mL          | 50 mL        | 41945        | 12/16/22 03:05       | CH      | EET MID |

**Laboratory References:**

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

### Accreditation/Certification Summary

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3607-1  
SDG: Lea County NM

#### Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority | Program | Identification Number | Expiration Date |
|-----------|---------|-----------------------|-----------------|
| Texas     | NELAP   | T104704400-22-24      | 06-30-23        |

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

| Analysis Method | Prep Method | Matrix | Analyte    |
|-----------------|-------------|--------|------------|
| 8015 NM         |             | Solid  | Total TPH  |
| Total BTEX      |             | Solid  | Total BTEX |

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### Method Summary

Client: Ensolum  
 Project/Site: James A Waterflood

Job ID: 890-3607-1  
 SDG: Lea County NM

| Method      | Method Description                 | Protocol | Laboratory |
|-------------|------------------------------------|----------|------------|
| 8021B       | Volatile Organic Compounds (GC)    | SW846    | EET MID    |
| Total BTEX  | Total BTEX Calculation             | TAL SOP  | EET MID    |
| 8015 NM     | Diesel Range Organics (DRO) (GC)   | SW846    | EET MID    |
| 8015B NM    | Diesel Range Organics (DRO) (GC)   | SW846    | EET MID    |
| 300.0       | Anions, Ion Chromatography         | MCAWW    | EET MID    |
| 5035        | Closed System Purge and Trap       | SW846    | EET MID    |
| 8015NM Prep | Microextraction                    | SW846    | EET MID    |
| DI Leach    | Deionized Water Leaching Procedure | ASTM     | EET MID    |

**Protocol References:**

- ASTM = ASTM International
- MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

- EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440



### Sample Summary

Client: Ensolum  
Project/Site: James A Waterflood

Job ID: 890-3607-1  
SDG: Lea County NM

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| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       | Depth |
|---------------|------------------|--------|----------------|----------------|-------|
| 890-3607-1    | BH02             | Solid  | 12/06/22 12:15 | 12/08/22 11:20 | 1     |
| 890-3607-2    | BH02             | Solid  | 12/06/22 12:25 | 12/08/22 11:20 | 4     |

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### Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3607-1  
SDG Number: Lea County NM

**Login Number: 3607**  
**List Number: 1**  
**Creator: Clifton, Cloe**

**List Source: Eurofins Carlsbad**

| Question   | Answer | Comment                             |
|--|--------|-------------------------------------|
| The cooler's custody seal, if present, is intact.                                | True   |                                     |
| Sample custody seals, if present, are intact.                                    | True   |                                     |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |                                     |
| Samples were received on ice.  | True   |                                     |
| Cooler Temperature is acceptable.  | True   |                                     |
| Cooler Temperature is recorded.  | True   |                                     |
| COC is present.  | True   |                                     |
| COC is filled out in ink and legible.  | True   |                                     |
| COC is filled out with all pertinent information.                                | True   |                                     |
| Is the Field Sampler's name present on COC?                                      | True   |                                     |
| There are no discrepancies between the containers received and the COC.          | True   |                                     |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |                                     |
| Sample containers have legible labels.   | True   |                                     |
| Containers are not broken or leaking.  | True   |                                     |
| Sample collection date/times are provided.                                       | True   |                                     |
| Appropriate sample containers are used.  | N/A    | Refer to Job Narrative for details. |
| Sample bottles are completely filled.  | True   |                                     |
| Sample Preservation Verified.  | N/A    |                                     |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |                                     |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | N/A    |                                     |

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### Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3607-1  
SDG Number: Lea County NM

**Login Number: 3607**  
**List Number: 2**  
**Creator: Rodriguez, Leticia**

**List Source: Eurofins Midland**  
**List Creation: 12/09/22 11:39 AM**

| Question   | Answer | Comment |
|--|--------|---------|
| The cooler's custody seal, if present, is intact.                                | N/A    |         |
| Sample custody seals, if present, are intact.                                    | N/A    |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.  | True   |         |
| Cooler Temperature is acceptable.  | True   |         |
| Cooler Temperature is recorded.  | True   |         |
| COC is present.  | True   |         |
| COC is filled out in ink and legible.  | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | True   |         |
| There are no discrepancies between the containers received and the COC.          | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |         |
| Sample containers have legible labels.   | True   |         |
| Containers are not broken or leaking.  | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.  | True   |         |
| Sample bottles are completely filled.  | True   |         |
| Sample Preservation Verified.  | N/A    |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | N/A    |         |

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Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Kalei Jennings  
 Ensolum  
 601 N. Marienfeld St.  
 Suite 400  
 Midland, Texas 79701

Generated 12/16/2022 1:23:04 PM

## JOB DESCRIPTION

JAMES A WATERFLOOD  
 SDG NUMBER Lea County NM

## JOB NUMBER

890-3608-1

Eurofins Carlsbad  
 1089 N Canal St.  
 Carlsbad NM 88220



# Eurofins Carlsbad

## Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

## Authorization



Generated  
12/16/2022 1:23:04 PM

Authorized for release by  
Jessica Kramer, Project Manager  
[Jessica.Kramer@et.eurofinsus.com](mailto:Jessica.Kramer@et.eurofinsus.com)  
(432)704-5440

Client: Ensolum  
Project/Site: JAMES A WATERFLOOD

Laboratory Job ID: 890-3608-1  
SDG: Lea County NM

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## Definitions/Glossary

Client: Ensolum  
Project/Site: JAMES A WATERFLOOD

Job ID: 890-3608-1  
SDG: Lea County NM

## Qualifiers

## GC VOA

| Qualifier | Qualifier Description                                    |
|-----------|--|
| F1        | MS and/or MSD recovery exceeds control limits.           |
| F2        | MS/MSD RPD exceeds control limits                        |
| S1+       | Surrogate recovery exceeds control limits, high biased.  |
| U         | Indicates the analyte was analyzed for but not detected. |

## GC Semi VOA

| Qualifier | Qualifier Description                                    |
|-----------|--|
| *1        | LCS/LCSD RPD exceeds control limits.                     |
| S1+       | Surrogate recovery exceeds control limits, high biased.  |
| U         | Indicates the analyte was analyzed for but not detected. |

## HPLC/IC

| Qualifier | Qualifier Description                                    |
|-----------|--|
| F1        | MS and/or MSD recovery exceeds control limits.           |
| U         | Indicates the analyte was analyzed for but not detected. |

## Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|---|
| α              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CFU            | Colony Forming Unit   |
| CNF            | Contains No Free Liquid   |
| DER            | Duplicate Error Ratio (normalized absolute difference)  |
| Dil Fac        | Dilution Factor   |
| DL             | Detection Limit (DoD/DOE)   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)   |
| EDL            | Estimated Detection Limit (Dioxin)  |
| LOD            | Limit of Detection (DoD/DOE)  |
| LOQ            | Limit of Quantitation (DoD/DOE)   |
| MCL            | EPA recommended "Maximum Contaminant Level"   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| MPN            | Most Probable Number  |
| MQL            | Method Quantitation Limit   |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| NEG            | Negative / Absent   |
| POS            | Positive / Present  |
| PQL            | Practical Quantitation Limit  |
| PRES           | Presumptive   |
| QC             | Quality Control   |
| RER            | Relative Error Ratio (Radiochemistry)   |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)   |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)   |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)   |
| TNTC           | Too Numerous To Count   |

### Case Narrative

Client: Ensolum  
Project/Site: JAMES A WATERFLOOD

Job ID: 890-3608-1  
SDG: Lea County NM

---

**Job ID: 890-3608-1**

---

**Laboratory: Eurofins Carlsbad****Narrative****Job Narrative  
890-3608-1****Receipt**

The samples were received on 12/8/2022 11:20 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

**Receipt Exceptions**

The following samples were received and analyzed from an unpreserved bulk soil jar: BH01 (890-3608-1) and BH01 (890-3608-2).

**GC VOA**

Method 8021B: Surrogate recovery for the following sample was outside control limits: BH01 (890-3608-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-41899 and analytical batch 880-41993 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

**GC Semi VOA**

Method 8015MOD\_NM: The surrogate recovery for the blank associated with preparation batch 880-41625 and analytical batch 880-41693 was outside the upper control limits.

Method 8015MOD\_NM: Surrogate recovery for the following samples were outside control limits: (CCV 880-41693/5) and (LCS 880-41625/2-A). Evidence of matrix interferences is not obvious.

Method 8015MOD\_NM: The method blank for preparation batch 880-41625 and analytical batch 880-41693 contained Gasoline Range Organics (GRO)-C6-C10 above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 8015MOD\_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-41625 and analytical batch 880-41693 recovered outside control limits for the following analytes: Diesel Range Organics (Over C10-C28).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

**HPLC/IC**

Method 300\_ORGFM\_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-41479 and analytical batch 880-41945 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.



### Client Sample Results

Client: Ensolum  
Project/Site: JAMES A WATERFLOOD

Job ID: 890-3608-1  
SDG: Lea County NM

**Client Sample ID: BH01**

**Lab Sample ID: 890-3608-1**

Date Collected: 12/05/22 09:40

Matrix: Solid

Date Received: 12/08/22 11:20

Sample Depth: 1

**Method: SW846 8021B - Volatile Organic Compounds (GC)**

| Analyte                     | Result           | Qualifier        | RL            | Unit  | D | Prepared        | Analyzed        | Dil Fac        |
|-----------------------------|------------------|------------------|---------------|-------|---|-----------------|-----------------|----------------|
| Benzene                     | <0.00202         | U                | 0.00202       | mg/Kg |   | 12/15/22 10:18  | 12/16/22 12:38  | 1              |
| Toluene                     | <0.00202         | U                | 0.00202       | mg/Kg |   | 12/15/22 10:18  | 12/16/22 12:38  | 1              |
| Ethylbenzene                | <0.00202         | U                | 0.00202       | mg/Kg |   | 12/15/22 10:18  | 12/16/22 12:38  | 1              |
| m-Xylene & p-Xylene         | <0.00404         | U                | 0.00404       | mg/Kg |   | 12/15/22 10:18  | 12/16/22 12:38  | 1              |
| o-Xylene                    | <0.00202         | U                | 0.00202       | mg/Kg |   | 12/15/22 10:18  | 12/16/22 12:38  | 1              |
| Xylenes, Total              | <0.00404         | U                | 0.00404       | mg/Kg |   | 12/15/22 10:18  | 12/16/22 12:38  | 1              |
| <b>Surrogate</b>            | <b>%Recovery</b> | <b>Qualifier</b> | <b>Limits</b> |       |   | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
| 4-Bromofluorobenzene (Surr) | 135              | S1+              | 70 - 130      |       |   | 12/15/22 10:18  | 12/16/22 12:38  | 1              |
| 1,4-Difluorobenzene (Surr)  | 75               |                  | 70 - 130      |       |   | 12/15/22 10:18  | 12/16/22 12:38  | 1              |

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

| Analyte    | Result   | Qualifier | RL      | Unit  | D | Prepared | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-------|---|----------|----------------|---------|
| Total BTEX | <0.00404 | U         | 0.00404 | mg/Kg |   |          | 12/16/22 14:05 | 1       |

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

| Analyte   | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Total TPH | <49.9  | U         | 49.9 | mg/Kg |   |          | 12/14/22 12:15 | 1       |

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

| Analyte                              | Result           | Qualifier        | RL            | Unit  | D | Prepared        | Analyzed        | Dil Fac        |
|--------------------------------------|------------------|------------------|---------------|-------|---|-----------------|-----------------|----------------|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9            | U                | 49.9          | mg/Kg |   | 12/12/22 11:00  | 12/13/22 15:00  | 1              |
| Diesel Range Organics (Over C10-C28) | <49.9            | U *1             | 49.9          | mg/Kg |   | 12/12/22 11:00  | 12/13/22 15:00  | 1              |
| Oil Range Organics (Over C28-C36)    | <49.9            | U                | 49.9          | mg/Kg |   | 12/12/22 11:00  | 12/13/22 15:00  | 1              |
| <b>Surrogate</b>                     | <b>%Recovery</b> | <b>Qualifier</b> | <b>Limits</b> |       |   | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
| 1-Chlorooctane                       | 127              |                  | 70 - 130      |       |   | 12/12/22 11:00  | 12/13/22 15:00  | 1              |
| o-Terphenyl                          | 125              |                  | 70 - 130      |       |   | 12/12/22 11:00  | 12/13/22 15:00  | 1              |

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

| Analyte  | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Chloride | 16.8   |           | 4.98 | mg/Kg |   |          | 12/16/22 03:12 | 1       |

**Client Sample ID: BH01**

**Lab Sample ID: 890-3608-2**

Date Collected: 12/05/22 09:55

Matrix: Solid

Date Received: 12/08/22 11:20

Sample Depth: 4

**Method: SW846 8021B - Volatile Organic Compounds (GC)**

| Analyte                     | Result           | Qualifier        | RL            | Unit  | D | Prepared        | Analyzed        | Dil Fac        |
|-----------------------------|------------------|------------------|---------------|-------|---|-----------------|-----------------|----------------|
| Benzene                     | <0.00199         | U                | 0.00199       | mg/Kg |   | 12/15/22 10:18  | 12/16/22 12:58  | 1              |
| Toluene                     | <0.00199         | U                | 0.00199       | mg/Kg |   | 12/15/22 10:18  | 12/16/22 12:58  | 1              |
| Ethylbenzene                | <0.00199         | U                | 0.00199       | mg/Kg |   | 12/15/22 10:18  | 12/16/22 12:58  | 1              |
| m-Xylene & p-Xylene         | <0.00398         | U                | 0.00398       | mg/Kg |   | 12/15/22 10:18  | 12/16/22 12:58  | 1              |
| o-Xylene                    | <0.00199         | U                | 0.00199       | mg/Kg |   | 12/15/22 10:18  | 12/16/22 12:58  | 1              |
| Xylenes, Total              | <0.00398         | U                | 0.00398       | mg/Kg |   | 12/15/22 10:18  | 12/16/22 12:58  | 1              |
| <b>Surrogate</b>            | <b>%Recovery</b> | <b>Qualifier</b> | <b>Limits</b> |       |   | <b>Prepared</b> | <b>Analyzed</b> | <b>Dil Fac</b> |
| 4-Bromofluorobenzene (Surr) | 119              |                  | 70 - 130      |       |   | 12/15/22 10:18  | 12/16/22 12:58  | 1              |

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### Client Sample Results

Client: Ensolum  
 Project/Site: JAMES A WATERFLOOD

Job ID: 890-3608-1  
 SDG: Lea County NM

**Client Sample ID: BH01**

**Lab Sample ID: 890-3608-2**

Date Collected: 12/05/22 09:55

Matrix: Solid

Date Received: 12/08/22 11:20

Sample Depth: 4

**Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)**

| Surrogate                  | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 1,4-Difluorobenzene (Surr) | 97        |           | 70 - 130 | 12/15/22 10:18 | 12/16/22 12:58 | 1       |

**Method: TAL SOP Total BTEX - Total BTEX Calculation**

| Analyte    | Result   | Qualifier | RL      | Unit  | D | Prepared | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-------|---|----------|----------------|---------|
| Total BTEX | <0.00398 | U         | 0.00398 | mg/Kg |   |          | 12/16/22 14:05 | 1       |

**Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)**

| Analyte   | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Total TPH | <49.8  | U         | 49.8 | mg/Kg |   |          | 12/14/22 12:15 | 1       |

**Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)**

| Analyte                              | Result | Qualifier | RL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|--------|-----------|------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <49.8  | U         | 49.8 | mg/Kg |   | 12/12/22 11:00 | 12/13/22 15:44 | 1       |
| Diesel Range Organics (Over C10-C28) | <49.8  | U *1      | 49.8 | mg/Kg |   | 12/12/22 11:00 | 12/13/22 15:44 | 1       |
| Oil Range Organics (Over C28-C36)    | <49.8  | U         | 49.8 | mg/Kg |   | 12/12/22 11:00 | 12/13/22 15:44 | 1       |

| Surrogate      | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------|-----------|-----------|----------|----------------|----------------|---------|
| 1-Chlorooctane | 115       |           | 70 - 130 | 12/12/22 11:00 | 12/13/22 15:44 | 1       |
| o-Terphenyl    | 119       |           | 70 - 130 | 12/12/22 11:00 | 12/13/22 15:44 | 1       |

**Method: MCAWW 300.0 - Anions, Ion Chromatography - Soluble**

| Analyte  | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Chloride | 54.4   |           | 4.96 | mg/Kg |   |          | 12/16/22 03:34 | 1       |

## Surrogate Summary

Client: Ensolum  
Project/Site: JAMES A WATERFLOOD

Job ID: 890-3608-1  
SDG: Lea County NM

## Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

## Percent Surrogate Recovery (Acceptance Limits)

| Lab Sample ID      | Client Sample ID       | BFB1     | DFBZ1    |
|--------------------|------------------------|----------|----------|
|                    |                        | (70-130) | (70-130) |
| 890-3590-A-1-D MS  | Matrix Spike           | 105      | 73       |
| 890-3590-A-1-E MSD | Matrix Spike Duplicate | 100      | 90       |
| 890-3608-1         | BH01                   | 135 S1+  | 75       |
| 890-3608-2         | BH01                   | 119      | 97       |
| LCS 880-41899/1-A  | Lab Control Sample     | 99       | 94       |
| LCSD 880-41899/2-A | Lab Control Sample Dup | 106      | 89       |
| MB 880-41899/5-A   | Method Blank           | 102      | 87       |

## Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

## Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

## Percent Surrogate Recovery (Acceptance Limits)

| Lab Sample ID       | Client Sample ID       | 1CO1     | OTPH1    |
|---------------------|------------------------|----------|----------|
|                     |                        | (70-130) | (70-130) |
| 880-22478-A-1-E MS  | Matrix Spike           | 125      | 104      |
| 880-22478-A-1-F MSD | Matrix Spike Duplicate | 127      | 106      |
| 890-3608-1          | BH01                   | 127      | 125      |
| 890-3608-2          | BH01                   | 115      | 119      |
| LCS 880-41625/2-A   | Lab Control Sample     | 165 S1+  | 162 S1+  |
| LCSD 880-41625/3-A  | Lab Control Sample Dup | 127      | 128      |
| MB 880-41625/1-A    | Method Blank           | 148 S1+  | 209 S1+  |

## Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

### QC Sample Results

Client: Ensolum  
Project/Site: JAMES A WATERFLOOD

Job ID: 890-3608-1  
SDG: Lea County NM

#### Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-41899/5-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 41899

| Analyte             | MB Result | MB Qualifier | RL      | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|-----------|--------------|---------|-------|---|----------------|----------------|---------|
| Benzene             | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 10:18 | 12/16/22 10:53 | 1       |
| Toluene             | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 10:18 | 12/16/22 10:53 | 1       |
| Ethylbenzene        | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 10:18 | 12/16/22 10:53 | 1       |
| m-Xylene & p-Xylene | <0.00400  | U            | 0.00400 | mg/Kg |   | 12/15/22 10:18 | 12/16/22 10:53 | 1       |
| o-Xylene            | <0.00200  | U            | 0.00200 | mg/Kg |   | 12/15/22 10:18 | 12/16/22 10:53 | 1       |
| Xylenes, Total      | <0.00400  | U            | 0.00400 | mg/Kg |   | 12/15/22 10:18 | 12/16/22 10:53 | 1       |

| Surrogate                   | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|--------------|--------------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 102          |              | 70 - 130 | 12/15/22 10:18 | 12/16/22 10:53 | 1       |
| 1,4-Difluorobenzene (Surr)  | 87           |              | 70 - 130 | 12/15/22 10:18 | 12/16/22 10:53 | 1       |

Lab Sample ID: LCS 880-41899/1-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 41899

| Analyte             | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec Limits |
|---------------------|-------------|------------|---------------|-------|---|------|-------------|
| Benzene             | 0.100       | 0.1057     |               | mg/Kg |   | 106  | 70 - 130    |
| Toluene             | 0.100       | 0.1002     |               | mg/Kg |   | 100  | 70 - 130    |
| Ethylbenzene        | 0.100       | 0.09641    |               | mg/Kg |   | 96   | 70 - 130    |
| m-Xylene & p-Xylene | 0.200       | 0.2086     |               | mg/Kg |   | 104  | 70 - 130    |
| o-Xylene            | 0.100       | 0.1033     |               | mg/Kg |   | 103  | 70 - 130    |

| Surrogate                   | LCS %Recovery | LCS Qualifier | Limits   |
|-----------------------------|---------------|---------------|----------|
| 4-Bromofluorobenzene (Surr) | 99            |               | 70 - 130 |
| 1,4-Difluorobenzene (Surr)  | 94            |               | 70 - 130 |

Lab Sample ID: LCSD 880-41899/2-A  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Lab Control Sample Dup  
Prep Type: Total/NA  
Prep Batch: 41899

| Analyte             | Spike Added | LCSD Result | LCSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | Limit |
|---------------------|-------------|-------------|----------------|-------|---|------|-------------|-----|-------|
| Benzene             | 0.100       | 0.1010      |                | mg/Kg |   | 101  | 70 - 130    | 5   | 35    |
| Toluene             | 0.100       | 0.09757     |                | mg/Kg |   | 98   | 70 - 130    | 3   | 35    |
| Ethylbenzene        | 0.100       | 0.09721     |                | mg/Kg |   | 97   | 70 - 130    | 1   | 35    |
| m-Xylene & p-Xylene | 0.200       | 0.2124      |                | mg/Kg |   | 106  | 70 - 130    | 2   | 35    |
| o-Xylene            | 0.100       | 0.1060      |                | mg/Kg |   | 106  | 70 - 130    | 3   | 35    |

| Surrogate                   | LCSD %Recovery | LCSD Qualifier | Limits   |
|-----------------------------|----------------|----------------|----------|
| 4-Bromofluorobenzene (Surr) | 106            |                | 70 - 130 |
| 1,4-Difluorobenzene (Surr)  | 89             |                | 70 - 130 |

Lab Sample ID: 890-3590-A-1-D MS  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 41899

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit  | D | %Rec | %Rec Limits |
|---------|---------------|------------------|-------------|-----------|--------------|-------|---|------|-------------|
| Benzene | <0.00199      | U F1 F2          | 0.101       | 0.04468   | F1           | mg/Kg |   | 44   | 70 - 130    |
| Toluene | <0.00199      | U                | 0.101       | 0.08001   |              | mg/Kg |   | 79   | 70 - 130    |

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### QC Sample Results

Client: Ensolum  
Project/Site: JAMES A WATERFLOOD

Job ID: 890-3608-1  
SDG: Lea County NM

#### Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-3590-A-1-D MS  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 41899

| Analyte             | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit  | D | %Rec | %Rec Limits |
|---------------------|---------------|------------------|-------------|-----------|--------------|-------|---|------|-------------|
| Ethylbenzene        | <0.00199      | U                | 0.101       | 0.09723   |              | mg/Kg |   | 96   | 70 - 130    |
| m-Xylene & p-Xylene | <0.00398      | U                | 0.202       | 0.1697    |              | mg/Kg |   | 84   | 70 - 130    |
| o-Xylene            | <0.00199      | U                | 0.101       | 0.08477   |              | mg/Kg |   | 84   | 70 - 130    |

| Surrogate                   | MS %Recovery | MS Qualifier | MS Limits |
|-----------------------------|--------------|--------------|-----------|
| 4-Bromofluorobenzene (Surr) | 105          |              | 70 - 130  |
| 1,4-Difluorobenzene (Surr)  | 73           |              | 70 - 130  |

Lab Sample ID: 890-3590-A-1-E MSD  
Matrix: Solid  
Analysis Batch: 41993

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 41899

| Analyte             | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---------------------|---------------|------------------|-------------|------------|---------------|-------|---|------|-------------|-----|-----------|
| Benzene             | <0.00199      | U F1 F2          | 0.0996      | 0.08835    | F2            | mg/Kg |   | 89   | 70 - 130    | 66  | 35        |
| Toluene             | <0.00199      | U                | 0.0996      | 0.08545    |               | mg/Kg |   | 86   | 70 - 130    | 7   | 35        |
| Ethylbenzene        | <0.00199      | U                | 0.0996      | 0.08497    |               | mg/Kg |   | 85   | 70 - 130    | 13  | 35        |
| m-Xylene & p-Xylene | <0.00398      | U                | 0.199       | 0.1852     |               | mg/Kg |   | 93   | 70 - 130    | 9   | 35        |
| o-Xylene            | <0.00199      | U                | 0.0996      | 0.09154    |               | mg/Kg |   | 92   | 70 - 130    | 8   | 35        |

| Surrogate                   | MSD %Recovery | MSD Qualifier | MSD Limits |
|-----------------------------|---------------|---------------|------------|
| 4-Bromofluorobenzene (Surr) | 100           |               | 70 - 130   |
| 1,4-Difluorobenzene (Surr)  | 90            |               | 70 - 130   |

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-41625/1-A  
Matrix: Solid  
Analysis Batch: 41693

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 41625

| Analyte                              | MB Result | MB Qualifier | RL   | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|-----------|--------------|------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0     | U            | 50.0 | mg/Kg |   | 12/12/22 11:00 | 12/13/22 08:06 | 1       |
| Diesel Range Organics (Over C10-C28) | <50.0     | U            | 50.0 | mg/Kg |   | 12/12/22 11:00 | 12/13/22 08:06 | 1       |
| Oll Range Organics (Over C28-C36)    | <50.0     | U            | 50.0 | mg/Kg |   | 12/12/22 11:00 | 12/13/22 08:06 | 1       |

| Surrogate      | MB %Recovery | MB Qualifier | MB Limits | Prepared       | Analyzed       | Dil Fac |
|----------------|--------------|--------------|-----------|----------------|----------------|---------|
| 1-Chlorooctane | 148          | S1+          | 70 - 130  | 12/12/22 11:00 | 12/13/22 08:06 | 1       |
| o-Terphenyl    | 209          | S1+          | 70 - 130  | 12/12/22 11:00 | 12/13/22 08:06 | 1       |

Lab Sample ID: LCS 880-41625/2-A  
Matrix: Solid  
Analysis Batch: 41693

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 41625

| Analyte                              | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec Limits |
|--------------------------------------|-------------|------------|---------------|-------|---|------|-------------|
| Gasoline Range Organics (GRO)-C6-C10 | 1000        | 949.4      |               | mg/Kg |   | 95   | 70 - 130    |
| Diesel Range Organics (Over C10-C28) | 1000        | 1175       |               | mg/Kg |   | 118  | 70 - 130    |

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### QC Sample Results

Client: Ensolum  
Project/Site: JAMES A WATERFLOOD

Job ID: 890-3608-1  
SDG: Lea County NM

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

**Lab Sample ID: LCS 880-41625/2-A**  
**Matrix: Solid**  
**Analysis Batch: 41693**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 41625**

| Surrogate      | LCS       |           | Limits   |
|----------------|-----------|-----------|----------|
|                | %Recovery | Qualifier |          |
| 1-Chlorooctane | 165       | S1+       | 70 - 130 |
| o-Terphenyl    | 162       | S1+       | 70 - 130 |

**Lab Sample ID: LCSD 880-41625/3-A**  
**Matrix: Solid**  
**Analysis Batch: 41693**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 41625**

| Analyte                              | Spike Added | LCSD   |           | Unit  | D | %Rec | %Rec     |     | RPD | Limit |
|--------------------------------------|-------------|--------|-----------|-------|---|------|----------|-----|-----|-------|
|                                      |             | Result | Qualifier |       |   |      | Limits   | RPD |     |       |
| Gasoline Range Organics (GRO)-C6-C10 | 1000        | 922.3  |           | mg/Kg |   | 92   | 70 - 130 | 3   | 20  |       |
| Diesel Range Organics (Over C10-C28) | 1000        | 925.4  | *1        | mg/Kg |   | 93   | 70 - 130 | 24  | 20  |       |

| Surrogate      | LCSD      |           | Limits   |
|----------------|-----------|-----------|----------|
|                | %Recovery | Qualifier |          |
| 1-Chlorooctane | 127       |           | 70 - 130 |
| o-Terphenyl    | 128       |           | 70 - 130 |

**Lab Sample ID: 880-22478-A-1-E MS**  
**Matrix: Solid**  
**Analysis Batch: 41693**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 41625**

| Analyte                              | Sample Result | Sample Qualifier | Spike Added | MS     |           | Unit  | D | %Rec | %Rec     |     |
|--------------------------------------|---------------|------------------|-------------|--------|-----------|-------|---|------|----------|-----|
|                                      |               |                  |             | Result | Qualifier |       |   |      | Limits   | RPD |
| Gasoline Range Organics (GRO)-C6-C10 | <50.0         | U                | 999         | 1156   |           | mg/Kg |   | 113  | 70 - 130 |     |
| Diesel Range Organics (Over C10-C28) | <50.0         | U *1             | 999         | 1148   |           | mg/Kg |   | 113  | 70 - 130 |     |

| Surrogate      | MS        |           | Limits   |
|----------------|-----------|-----------|----------|
|                | %Recovery | Qualifier |          |
| 1-Chlorooctane | 125       |           | 70 - 130 |
| o-Terphenyl    | 104       |           | 70 - 130 |

**Lab Sample ID: 880-22478-A-1-F MSD**  
**Matrix: Solid**  
**Analysis Batch: 41693**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 41625**

| Analyte                              | Sample Result | Sample Qualifier | Spike Added | MSD    |           | Unit  | D | %Rec | %Rec     |     | RPD | Limit |
|--------------------------------------|---------------|------------------|-------------|--------|-----------|-------|---|------|----------|-----|-----|-------|
|                                      |               |                  |             | Result | Qualifier |       |   |      | Limits   | RPD |     |       |
| Gasoline Range Organics (GRO)-C6-C10 | <50.0         | U                | 997         | 1120   |           | mg/Kg |   | 109  | 70 - 130 | 3   | 20  |       |
| Diesel Range Organics (Over C10-C28) | <50.0         | U *1             | 997         | 1190   |           | mg/Kg |   | 117  | 70 - 130 | 4   | 20  |       |

| Surrogate      | MSD       |           | Limits   |
|----------------|-----------|-----------|----------|
|                | %Recovery | Qualifier |          |
| 1-Chlorooctane | 127       |           | 70 - 130 |
| o-Terphenyl    | 106       |           | 70 - 130 |

### QC Sample Results

Client: Ensolum  
 Project/Site: JAMES A WATERFLOOD

Job ID: 890-3608-1  
 SDG: Lea County NM

**Method: 300.0 - Anions, Ion Chromatography**

Lab Sample ID: MB 880-41479/1-A  
 Matrix: Solid  
 Analysis Batch: 41945

Client Sample ID: Method Blank  
 Prep Type: Soluble

| Analyte  | MB Result | MB Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|-----------|--------------|------|-------|---|----------|----------------|---------|
| Chloride | <5.00     | U            | 5.00 | mg/Kg |   |          | 12/16/22 02:07 | 1       |

Lab Sample ID: LCS 880-41479/2-A  
 Matrix: Solid  
 Analysis Batch: 41945

Client Sample ID: Lab Control Sample  
 Prep Type: Soluble

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit  | D | %Rec | %Rec Limits |
|----------|-------------|------------|---------------|-------|---|------|-------------|
| Chloride | 250         | 253.5      |               | mg/Kg |   | 101  | 90 - 110    |

Lab Sample ID: LCSD 880-41479/3-A  
 Matrix: Solid  
 Analysis Batch: 41945

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Soluble

| Analyte  | Spike Added | LCSD Result | LCSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|----------|-------------|-------------|----------------|-------|---|------|-------------|-----|-----------|
| Chloride | 250         | 251.3       |                | mg/Kg |   | 101  | 90 - 110    | 1   | 20        |

Lab Sample ID: 890-3606-A-1-C MS  
 Matrix: Solid  
 Analysis Batch: 41945

Client Sample ID: Matrix Spike  
 Prep Type: Soluble

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit  | D | %Rec | %Rec Limits |
|----------|---------------|------------------|-------------|-----------|--------------|-------|---|------|-------------|
| Chloride | 606           | F1               | 252         | 812.9     | F1           | mg/Kg |   | 82   | 90 - 110    |

Lab Sample ID: 890-3606-A-1-D MSD  
 Matrix: Solid  
 Analysis Batch: 41945

Client Sample ID: Matrix Spike Duplicate  
 Prep Type: Soluble

| Analyte  | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit  | D | %Rec | %Rec Limits | RPD | RPD Limit |
|----------|---------------|------------------|-------------|------------|---------------|-------|---|------|-------------|-----|-----------|
| Chloride | 606           | F1               | 252         | 812.4      | F1            | mg/Kg |   | 82   | 90 - 110    | 0   | 20        |

## QC Association Summary

Client: Ensolum  
Project/Site: JAMES A WATERFLOOD

Job ID: 890-3608-1  
SDG: Lea County NM

## GC VOA

## Prep Batch: 41899

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3608-1         | BH01                   | Total/NA  | Solid  | 5035   |            |
| 890-3608-2         | BH01                   | Total/NA  | Solid  | 5035   |            |
| MB 880-41899/5-A   | Method Blank           | Total/NA  | Solid  | 5035   |            |
| LCS 880-41899/1-A  | Lab Control Sample     | Total/NA  | Solid  | 5035   |            |
| LCSD 880-41899/2-A | Lab Control Sample Dup | Total/NA  | Solid  | 5035   |            |
| 890-3590-A-1-D MS  | Matrix Spike           | Total/NA  | Solid  | 5035   |            |
| 890-3590-A-1-E MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 5035   |            |

## Analysis Batch: 41993

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3608-1         | BH01                   | Total/NA  | Solid  | 8021B  | 41899      |
| 890-3608-2         | BH01                   | Total/NA  | Solid  | 8021B  | 41899      |
| MB 880-41899/5-A   | Method Blank           | Total/NA  | Solid  | 8021B  | 41899      |
| LCS 880-41899/1-A  | Lab Control Sample     | Total/NA  | Solid  | 8021B  | 41899      |
| LCSD 880-41899/2-A | Lab Control Sample Dup | Total/NA  | Solid  | 8021B  | 41899      |
| 890-3590-A-1-D MS  | Matrix Spike           | Total/NA  | Solid  | 8021B  | 41899      |
| 890-3590-A-1-E MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8021B  | 41899      |

## Analysis Batch: 42042

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method     | Prep Batch |
|---------------|------------------|-----------|--------|------------|------------|
| 890-3608-1    | BH01             | Total/NA  | Solid  | Total BTEX |            |
| 890-3608-2    | BH01             | Total/NA  | Solid  | Total BTEX |            |

## GC Semi VOA

## Prep Batch: 41625

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method      | Prep Batch |
|---------------------|------------------------|-----------|--------|-------------|------------|
| 890-3608-1          | BH01                   | Total/NA  | Solid  | 8015NM Prep |            |
| 890-3608-2          | BH01                   | Total/NA  | Solid  | 8015NM Prep |            |
| MB 880-41625/1-A    | Method Blank           | Total/NA  | Solid  | 8015NM Prep |            |
| LCS 880-41625/2-A   | Lab Control Sample     | Total/NA  | Solid  | 8015NM Prep |            |
| LCSD 880-41625/3-A  | Lab Control Sample Dup | Total/NA  | Solid  | 8015NM Prep |            |
| 880-22478-A-1-E MS  | Matrix Spike           | Total/NA  | Solid  | 8015NM Prep |            |
| 880-22478-A-1-F MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8015NM Prep |            |

## Analysis Batch: 41693

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|---------------------|------------------------|-----------|--------|----------|------------|
| 890-3608-1          | BH01                   | Total/NA  | Solid  | 8015B NM | 41625      |
| 890-3608-2          | BH01                   | Total/NA  | Solid  | 8015B NM | 41625      |
| MB 880-41625/1-A    | Method Blank           | Total/NA  | Solid  | 8015B NM | 41625      |
| LCS 880-41625/2-A   | Lab Control Sample     | Total/NA  | Solid  | 8015B NM | 41625      |
| LCSD 880-41625/3-A  | Lab Control Sample Dup | Total/NA  | Solid  | 8015B NM | 41625      |
| 880-22478-A-1-E MS  | Matrix Spike           | Total/NA  | Solid  | 8015B NM | 41625      |
| 880-22478-A-1-F MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8015B NM | 41625      |

## Analysis Batch: 41808

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method  | Prep Batch |
|---------------|------------------|-----------|--------|---------|------------|
| 890-3608-1    | BH01             | Total/NA  | Solid  | 8015 NM |            |
| 890-3608-2    | BH01             | Total/NA  | Solid  | 8015 NM |            |

Eurofins Carlsbad

### QC Association Summary

Client: Ensolum  
 Project/Site: JAMES A WATERFLOOD

Job ID: 890-3608-1  
 SDG: Lea County NM

#### HPLC/IC

##### Leach Batch: 41479

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 890-3608-1         | BH01                   | Soluble   | Solid  | DI Leach |            |
| 890-3608-2         | BH01                   | Soluble   | Solid  | DI Leach |            |
| MB 880-41479/1-A   | Method Blank           | Soluble   | Solid  | DI Leach |            |
| LCS 880-41479/2-A  | Lab Control Sample     | Soluble   | Solid  | DI Leach |            |
| LCSD 880-41479/3-A | Lab Control Sample Dup | Soluble   | Solid  | DI Leach |            |
| 890-3606-A-1-C MS  | Matrix Spike           | Soluble   | Solid  | DI Leach |            |
| 890-3606-A-1-D MSD | Matrix Spike Duplicate | Soluble   | Solid  | DI Leach |            |

##### Analysis Batch: 41945

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-3608-1         | BH01                   | Soluble   | Solid  | 300.0  | 41479      |
| 890-3608-2         | BH01                   | Soluble   | Solid  | 300.0  | 41479      |
| MB 880-41479/1-A   | Method Blank           | Soluble   | Solid  | 300.0  | 41479      |
| LCS 880-41479/2-A  | Lab Control Sample     | Soluble   | Solid  | 300.0  | 41479      |
| LCSD 880-41479/3-A | Lab Control Sample Dup | Soluble   | Solid  | 300.0  | 41479      |
| 890-3606-A-1-C MS  | Matrix Spike           | Soluble   | Solid  | 300.0  | 41479      |
| 890-3606-A-1-D MSD | Matrix Spike Duplicate | Soluble   | Solid  | 300.0  | 41479      |

### Lab Chronicle

Client: Ensolum  
 Project/Site: JAMES A WATERFLOOD

Job ID: 890-3608-1  
 SDG: Lea County NM

**Client Sample ID: BH01**

**Lab Sample ID: 890-3608-1**

Date Collected: 12/05/22 09:40

Matrix: Solid

Date Received: 12/08/22 11:20

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 5035         |     |            | 4.95 g         | 5 mL         | 41899        | 12/15/22 10:18       | EL      | EET MID |
| Total/NA  | Analysis   | 8021B        |     | 1          | 5 mL           | 5 mL         | 41993        | 12/16/22 12:38       | MNR     | EET MID |
| Total/NA  | Analysis   | Total BTEX   |     | 1          |                |              | 42042        | 12/16/22 14:05       | SM      | EET MID |
| Total/NA  | Analysis   | 8015 NM      |     | 1          |                |              | 41808        | 12/14/22 12:15       | SM      | EET MID |
| Total/NA  | Prep       | 8015NM Prep  |     |            | 10.03 g        | 10 mL        | 41625        | 12/12/22 11:00       | DM      | EET MID |
| Total/NA  | Analysis   | 8015B NM     |     | 1          | 1 uL           | 1 uL         | 41693        | 12/13/22 15:00       | SM      | EET MID |
| Soluble   | Leach      | DI Leach     |     |            | 5.02 g         | 50 mL        | 41479        | 12/09/22 13:24       | KS      | EET MID |
| Soluble   | Analysis   | 300.0        |     | 1          | 50 mL          | 50 mL        | 41945        | 12/16/22 03:12       | CH      | EET MID |

**Client Sample ID: BH01**

**Lab Sample ID: 890-3608-2**

Date Collected: 12/05/22 09:55

Matrix: Solid

Date Received: 12/08/22 11:20

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA  | Prep       | 5035         |     |            | 5.03 g         | 5 mL         | 41899        | 12/15/22 10:18       | EL      | EET MID |
| Total/NA  | Analysis   | 8021B        |     | 1          | 5 mL           | 5 mL         | 41993        | 12/16/22 12:58       | MNR     | EET MID |
| Total/NA  | Analysis   | Total BTEX   |     | 1          |                |              | 42042        | 12/16/22 14:05       | SM      | EET MID |
| Total/NA  | Analysis   | 8015 NM      |     | 1          |                |              | 41808        | 12/14/22 12:15       | SM      | EET MID |
| Total/NA  | Prep       | 8015NM Prep  |     |            | 10.04 g        | 10 mL        | 41625        | 12/12/22 11:00       | DM      | EET MID |
| Total/NA  | Analysis   | 8015B NM     |     | 1          | 1 uL           | 1 uL         | 41693        | 12/13/22 15:44       | SM      | EET MID |
| Soluble   | Leach      | DI Leach     |     |            | 5.04 g         | 50 mL        | 41479        | 12/09/22 13:24       | KS      | EET MID |
| Soluble   | Analysis   | 300.0        |     | 1          | 50 mL          | 50 mL        | 41945        | 12/16/22 03:34       | CH      | EET MID |

**Laboratory References:**

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

### Accreditation/Certification Summary

Client: Ensolum  
Project/Site: JAMES A WATERFLOOD

Job ID: 890-3608-1  
SDG: Lea County NM

#### Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority | Program | Identification Number | Expiration Date |
|-----------|---------|-----------------------|-----------------|
| Texas     | NELAP   | T104704400-22-24      | 06-30-23        |

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

| Analysis Method | Prep Method | Matrix | Analyte    |
|-----------------|-------------|--------|------------|
| 8015 NM         |             | Solid  | Total TPH  |
| Total BTEX      |             | Solid  | Total BTEX |

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### Method Summary

Client: Ensolum  
 Project/Site: JAMES A WATERFLOOD

Job ID: 890-3608-1  
 SDG: Lea County NM

| Method      | Method Description                 | Protocol | Laboratory |
|-------------|------------------------------------|----------|------------|
| 8021B       | Volatile Organic Compounds (GC)    | SW846    | EET MID    |
| Total BTEX  | Total BTEX Calculation             | TAL SOP  | EET MID    |
| 8015 NM     | Diesel Range Organics (DRO) (GC)   | SW846    | EET MID    |
| 8015B NM    | Diesel Range Organics (DRO) (GC)   | SW846    | EET MID    |
| 300.0       | Anions, Ion Chromatography         | MCAWW    | EET MID    |
| 5035        | Closed System Purge and Trap       | SW846    | EET MID    |
| 8015NM Prep | Microextraction                    | SW846    | EET MID    |
| DI Leach    | Deionized Water Leaching Procedure | ASTM     | EET MID    |

**Protocol References:**

- ASTM = ASTM International
- MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.
- TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

**Laboratory References:**

- EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440



### Sample Summary

Client: Ensolum  
Project/Site: JAMES A WATERFLOOD

Job ID: 890-3608-1  
SDG: Lea County NM

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| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       | Depth |
|---------------|------------------|--------|----------------|----------------|-------|
| 890-3608-1    | BH01             | Solid  | 12/05/22 09:40 | 12/08/22 11:20 | 1     |
| 890-3608-2    | BH01             | Solid  | 12/05/22 09:55 | 12/08/22 11:20 | 4     |

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### Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3608-1  
SDG Number: Lea County NM

**Login Number: 3608**  
**List Number: 1**  
**Creator: Clifton, Cloe**

**List Source: Eurofins Carlsbad**

| Question   | Answer | Comment                             |
|--|--------|-------------------------------------|
| The cooler's custody seal, if present, is intact.                                | True   |                                     |
| Sample custody seals, if present, are intact.                                    | True   |                                     |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |                                     |
| Samples were received on ice.  | True   |                                     |
| Cooler Temperature is acceptable.  | True   |                                     |
| Cooler Temperature is recorded.  | True   |                                     |
| COC is present.  | True   |                                     |
| COC is filled out in ink and legible.  | True   |                                     |
| COC is filled out with all pertinent information.                                | True   |                                     |
| Is the Field Sampler's name present on COC?                                      | True   |                                     |
| There are no discrepancies between the containers received and the COC.          | True   |                                     |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |                                     |
| Sample containers have legible labels.   | True   |                                     |
| Containers are not broken or leaking.  | True   |                                     |
| Sample collection date/times are provided.                                       | True   |                                     |
| Appropriate sample containers are used.  | N/A    | Refer to Job Narrative for details. |
| Sample bottles are completely filled.  | True   |                                     |
| Sample Preservation Verified.  | N/A    |                                     |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |                                     |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | N/A    |                                     |

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### Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-3608-1  
SDG Number: Lea County NM

**Login Number: 3608**  
**List Number: 2**  
**Creator: Rodriguez, Leticia**

**List Source: Eurofins Midland**  
**List Creation: 12/09/22 11:39 AM**

| Question   | Answer | Comment |
|--|--------|---------|
| The cooler's custody seal, if present, is intact.                                | N/A    |         |
| Sample custody seals, if present, are intact.                                    | N/A    |         |
| The cooler or samples do not appear to have been compromised or tampered with.   | True   |         |
| Samples were received on ice.  | True   |         |
| Cooler Temperature is acceptable.  | True   |         |
| Cooler Temperature is recorded.  | True   |         |
| COC is present.  | True   |         |
| COC is filled out in ink and legible.  | True   |         |
| COC is filled out with all pertinent information.                                | True   |         |
| Is the Field Sampler's name present on COC?                                      | True   |         |
| There are no discrepancies between the containers received and the COC.          | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)    | True   |         |
| Sample containers have legible labels.   | True   |         |
| Containers are not broken or leaking.  | True   |         |
| Sample collection date/times are provided.                                       | True   |         |
| Appropriate sample containers are used.  | True   |         |
| Sample bottles are completely filled.  | True   |         |
| Sample Preservation Verified.  | N/A    |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True   |         |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").  | N/A    |         |

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|----------------|---------------|
| Incident ID    | NAB1912758567 |
| District RP    | 2RP-5398      |
| Facility ID    |               |
| Application ID |               |

## Remediation Plan

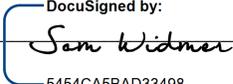
**Remediation Plan Checklist:** Each of the following items must be included in the plan.

- Detailed description of proposed remediation technique
- Scaled sitemap with GPS coordinates showing delineation points
- Estimated volume of material to be remediated
- Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

**Deferral Requests Only:** Each of the following items must be confirmed as part of any request for deferral of remediation.

- Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- Extents of contamination must be fully delineated.
- Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Sam widmer Title: Principal Program Manager  
 Signature:  Date: May-01-2023  
 email: 5454CA5BAD33498...  
sam.widmer@conocophillips.com Telephone: 281-206-5298

**OCD Only**

Received by: Jocelyn Harimon Date: 05/03/2023

- Approved       Approved with Attached Conditions of Approval       Denied       Deferral Approved

Signature: Robert Hamlet Date: 9/20/2023

**District I**  
 1625 N. French Dr., Hobbs, NM 88240  
 Phone:(575) 393-6161 Fax:(575) 393-0720  
**District II**  
 811 S. First St., Artesia, NM 88210  
 Phone:(575) 748-1283 Fax:(575) 748-9720  
**District III**  
 1000 Rio Brazos Rd., Aztec, NM 87410  
 Phone:(505) 334-6178 Fax:(505) 334-6170  
**District IV**  
 1220 S. St Francis Dr., Santa Fe, NM 87505  
 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 213256

**CONDITIONS**

|  |   |
|--|---|
| Operator:<br>CONOCOPHILLIPS COMPANY<br>600 W. Illinois Avenue<br>Midland, TX 79701 | OGRID:<br>217817  |
|  | Action Number:<br>213256                                  |
|  | Action Type:<br>[C-141] Release Corrective Action (C-141) |

**CONDITIONS**

| Created By | Condition   | Condition Date |
|------------|---|----------------|
| rhamlet    | The Remediation Plan is Conditionally Approved. This release is in a high karst area and will need to be remediated to the strictest closure criteria from Table 1 of the OCD Spill Rule. The variance to install a liner at 4 feet below ground surface is only approved under the circumstance that as much contaminated soil is safely removed as possible. The excavations should be backfilled to 4 feet below surface with clean material, liner installed, and then backfilled to surface with clean material. A deferral may be granted so long as the contamination is fully delineated and does not cause an imminent risk to human health, the environment, or ground water. As much contaminated soil as possible should be removed safely with alternative methods (shovel, hydrovac, etc.). Only sample points that could cause a major facility deconstruction will be deferred. Due to the sensitive nature of the site, the variance for 400 ft2 confirmation samples is denied. | 9/20/2023      |