

June 11, 2025

#### **New Mexico Oil Conservation Division**

New Mexico Energy, Minerals, and Natural Resources Department 1220 South St. Francis Drive Santa Fe, New Mexico 87505

Re: Closure Request

Poker Lake Unit 387 Battery Incident Number NMAP1823448856 Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared this *Closure Request* to provide an update to the depth to groundwater determination activities performed at the Poker Lake Unit 387 Battery (Site), in accordance with an approved Remediation Work Plan, dated September 27, 2023. Based on the additional investigation of depth to groundwater, XTO is requesting closure for Incident Number NMAP1823448856.

#### RELEASE SUMMARY AND BACKGROUND

The Site is located in Unit D, Section 13, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.137664°, -103.841930°) and is associated with oil and gas exploration and production operations on Federal land managed by the Bureau of Land Management (BLM).

On August 9, 2018, corrosion in the saltwater disposal (SWD) riser caused the release of 631 barrels (bbls) of produced water onto the adjacent pasture and lease road. The area around the riser had been previously excavated for upgrades. The majority of the released fluid was contained within the open excavation; however, some of the fluid flowed east along the lease road. Vacuum trucks were dispatched to the Site and recovered 540 bbls of produced water from the open excavation and 60 bbls from the ground surface. XTO reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 on August 22, 2018. The release was assigned Remediation Permit Number (RP) Number 2RP-4946 and Incident Number NMAP1823448856.

The release was included in the Compliance Agreement for Remediation for Historical Releases (Compliance Agreement) between XTO and the NMOCD effective November 13, 2018. The purpose of the Compliance Agreement was to ensure that reportable releases that occurred prior to or near August 14, 2018, where XTO is responsible for the corrective action, comply with Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC) as amended on August 14, 2018.

Based on the results of the Site Characterization, the following NMOCD Table I Closure Criteria (Closure Criteria) were applied:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg

Ensolum, LLC | Environmental, Engineering & Hydrogeologic Consultants 3122 National Parks Highway | Carlsbad, NM 88220 | ensolum.com

XTO Energy, Inc Closure Request Poker Lake Unit 387 Battery

Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg

TPH: 2,500 mg/kg

Chloride: 20,000 mg/kg

A reclamation requirement of 600 mg/kg chloride was applied to the top 4 feet of the pasture areas that were impacted by the release, per 19.15.29.13.D (1) NMAC for the top 4 feet of areas that will be reclaimed following remediation.

During October and November 2018, delineation and excavation activities were conducted at the Site to address the impacted soil resulting from the produced water release. Impacted soil was excavated to the extent possible; however, an estimated 90 cubic yards of impacted soil were left in place for compliance with XTO safety policy regarding earth-moving activities within two feet of active production equipment and pipelines. This policy was enforced where impacted soil was identified within two feet of the active SWD riser and pipelines. The impacted soil left in-place was laterally and vertically delineated to below the Site Closure Criteria. Additional details regarding the delineation and excavation activities can be referenced in the *Deferral Request*, submitted to NMOCD on April 11, 2019.

On March 16, 2023, NMOCD denied the *Deferral Request* for the following reasons:

- Deferral request denied. Per 19.15.29.12 C. (3) The responsible party shall remediate the impacted surface area of a release not occurring on a lined, bermed or otherwise contained exploration, development, production or storage site to meet the standards of Table I of 19.15.29.12 NMAC or other applicable remediation standards and restore and reclaim the area pursuant to 19.15.29.13 NMAC.
- Samples SW03, SW05, SS01, and SS05 returned results above the reclamation standards of 600 mg/kg for chloride and/or 100 mg/kg for TPH.

In April 2023 additional soil sampling activities were conducted at the Site to confirm the presence or absence of waste containing soil in the top four feet. Closure was requested on June 15, 2023, based on laboratory analytical results for the confirmation and delineation soil samples indicating concentrations of all contaminants of concern (COCs) were compliant with the reclamation requirement. Additional details regarding the delineation and excavation activities can be referenced in the June 15, 2023, Closure Request.

On June 26, 2023, NMOCD denied the Closure Request for the following reasons:

- Closure denied. Inadequate depth to groundwater data.
- A deferral cannot be granted on a release if the depth to water is <50' depth to groundwater. At that point, a hydrovac/shovel would need to be used to safely remove the contaminated soil around equipment and pipelines. The release will need to be remediated to the strictest closure criteria limits (600 mg/kg, Chlorides, 100 mg/kg TPH, etc.). If you feel the depth to groundwater is >50', a shallow borehole can be drilled to 51' allowing for verification of the depth. If water is not visible after reaching bottom-hole and waiting 72 hours, the OCD will accept this as evidence. A driller's log must be provided in the report to the OCD.
- Samples FS01-FS05 and BH03 exceed closure criteria for depth to groundwater <50 feet.</li>
- Submit a report via the OCD permitting portal by September 29, 2023.

Based on the lack of any verbiage regarding the Closure Criteria in NMOCD's denial of the April 19, 2019 *Deferral Request*, it appeared the Closure Criteria had been accepted. The *Deferral Request* was denied due to several soil samples not meeting the reclamation requirement, not that the strictest Table I Closure Criteria needed to be applied to the entire Site. However, to ensure closure of the release XTO

**ENSOLUM** 

XTO Energy, Inc Closure Request Poker Lake Unit 387 Battery

submitted a *Remediation Work Plan* (*Work Plan*) on September 29, 2023 and proposed to confirm the Closure Criteria by advancing a soil boring to confirm depth to groundwater is greater than 100 feet bgs at the Site. The *Work Plan* was approved on October 17, 2023.

#### **DEPTH TO GROUNDWATER DETERMINATION**

Following approval of permits from the New Mexico Office of the State Engineer and coordinating with driller's schedules, on January 15, 2025, a borehole (BH01) was advanced to a depth of 105 feet below ground surface (bgs) via hollow stem auger drill rig. The borehole was located approximately 0.43 miles east of the Site and is depicted on Figure 1. A field geologist logged and described soils continuously. The borehole lithologic soil sampling log is included in Appendix A. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater beneath the Site is greater than 100 feet bgs. The borehole was properly abandoned using hydrated bentonite chips. Based on the confirmed depth to water greater than 100 feet bgs, the Table I Closure Criteria identified in the original *Closure Request* are applicable and appropriate for protection of groundwater at this Site.

## **CLOSURE REQUEST**

A soil boring installed within 0.43 miles of the Site confirmed depth to groundwater greater than 105 feet bgs; therefore, the Site-specific Closure Criteria presented in the original *Closure Request* was correctly applied. Based on excavation of impacted soil to below the confirmed Site Closure Criteria, XTO respectfully requests closure for Incident Number NMAP1823448856.

If you have any questions or comments, please contact Ms. Tacoma Morrissey at (337) 257-8307 or tmorrissey@ensolum.com.

Sincerely, **Ensolum**, **LLC** 

Hadlie Green
Project Geologist

Daniel R. Moir, PG Senior Managing Geologist

cc: Colton Brown, XTO Kaylan Dirkx, XTO

Bureau of Land Management

Appendices:

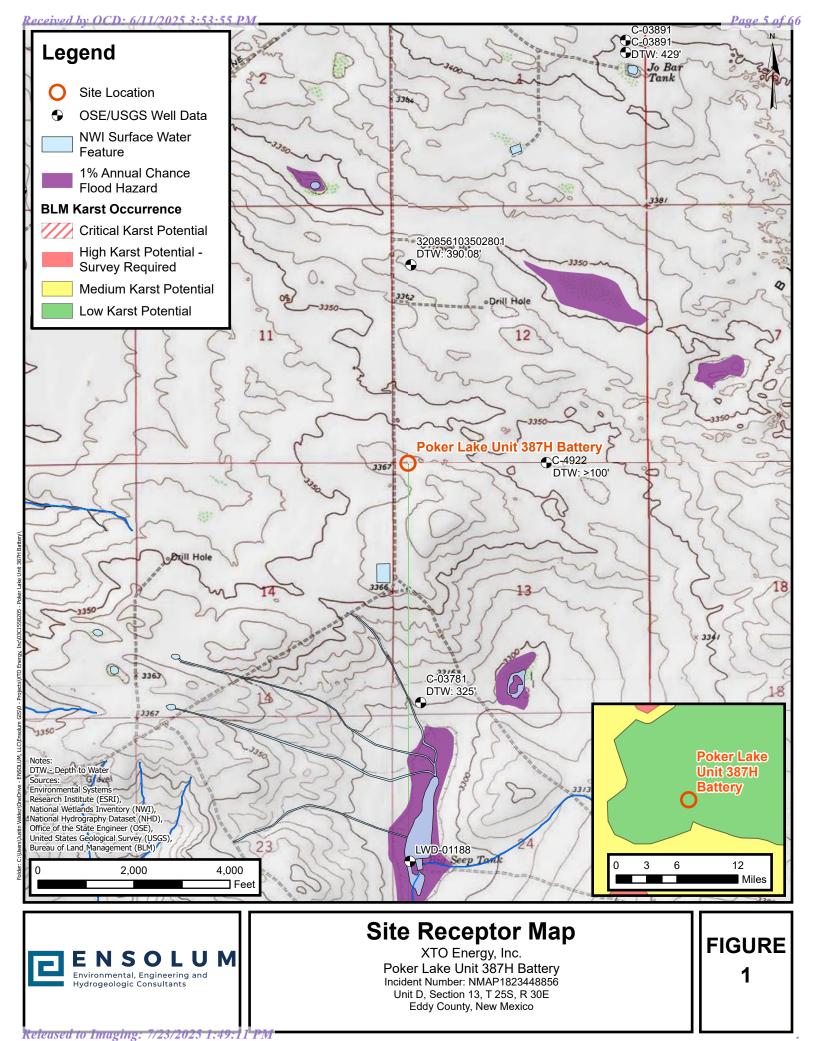
Figure 1 Site Receptor Map Appendix A Well Record and Log

Appendix B Closure Request, June 16, 2023

Appendix C Remediation Work Plan; September 27, 2023



FIGURE 1





APPENDIX A WELL RECORDS AND LOGS



2904 W 2nd St. Roswell, NM 88201 voice: 575.624.2420 fax: 575.624.2421 www.atkinseng.com

February 19, 2025

DII-NMOSE 1900 W 2<sup>nd</sup> Street Roswell, NM 88201

Hand Delivered to the DII Office of the State Engineer

Re: Well Record C-4922 Pod-1

To whom it may concern:

Attached please find the corrected well log & record and plugging record, in duplicate, for, C-4922 Pod-1 (originally filed 2/18/25).

If you have any questions, please contact me at 575.499.9244 or lucas@atkinseng.com.

Sincerely,

Lucas Middleton

Enclosures: as noted above

Gran Modern

TEFES TO ATOM



|                               | OSE POD NO      |          | NO.)            |                                       |                 | WELL TAG ID NO.                          |             |             | OSE FILE NO           | S).         |           |         |                 |              |
|-------------------------------|-----------------|----------|-----------------|---------------------------------------|-----------------|--|-------------|-------------|-----------------------|-------------|-----------|---------|-----------------|--------------|
| NO.                           | POD 1 (TV       | W-1)     |                 |                                       |                 | N/A                                      |             |             | C-4922                |             |           |         |                 |              |
| ATI                           | WELL OWN        |          | . ,             |                                       |                 |  |             |             | PHONE (OPTI           | ONAL)       |           |         |                 |              |
| ပို                           | XTO Ener        | gy, Inc  |                 |                                       |                 |  |             |             |                       |             |           |         |                 |              |
| 17                            | WELL OWN        | ER MAIL  | ING ADDR        | RESS                                  |                 |  |             |             | CITY                  |             |           | STAT    | E               | ZIP          |
| VEL                           | 3104 E. Gi      | reene S  | t.              |                                       |                 |  |             |             | Carlsbad              |             |           | NM      | 88220           |              |
| 0                             |                 |          |                 | DE                                    | GREES           | MINUTES                                  | SECON       | JDS         | <b>.</b>              |             |           |         |                 |              |
| ¥                             | WELL<br>LOCATIO | .,       |                 |                                       | 32              | 8  | 15.         | 35          | * ACCURACY            | REQUIRED:   | ONE TEN   | TH OF A | SECOND          |              |
| RAI                           | (FROM GE        | ļ.,      | LATITUDE        |                                       | 103             | 49                                       | 5.4         | N N         | * DATUM REG           | -           |           | 01 11   | DECOND          |              |
| GENERAL AND WELL LOCATION     |                 |          | LONGITUI        | JE                                    |                 |  | 54.         |             | (24)                  |             |           |         |                 |              |
| GE                            | l               |          |                 |                                       | STREET ADDRI    | ESS AND COMMON                           | I LANDM     | ARKS – PLS  | SS (SECTION, TO       | WNSHJIP, RA | NGE) WH   | ERE AV  | AILABLE         |              |
| -:                            | NE NW N         | E Sec.   | 7 T25S F        | R30E,NMPM                             |                 |  |             |             |                       |             |           |         |                 |              |
|                               | LICENSE NO      | )        | I NAV           | ME OF LICENSED                        | DRILLER         |  |             |             |                       | NAME OF     | WELL DR   | ILLING  | COMPANY         |              |
|                               | 124             |          | 14121           | ID OF BIOLINOBD                       |                 | ackie D. Atkins                          |             |             |                       |             |           |         | g Associates, l | inc.         |
|                               | DRILLING S      | TARTED   | DRII            | LLING ENDED                           | DEPTH OF COM    | APLETED WELL (F                          | r)          | BODE HO     | LE DEPTH (FT)         | DEPTH W     | ATED EIDS | ET ENC  | OUNTERED (FT)   |              |
|                               | 1/15/2          |          |                 | /15/2025                              |                 | ry Well Materi                           | · .         |             | ±101                  | DEITH W     | ATEK PIK  | N/      |                 | '            |
| 3                             |                 |          |                 |                                       |                 | •  |             |             | STATIC                | WATER LEV   | TO I      |         | D + 000 + 004 0 |              |
|                               | COMPLETE        | WELL :   | is:             | ARTESIAN *add<br>Centralizer info bel | DRY HOLE        | SHALLO                                   | W (UNCO     | NFINED)     | IN COM                | PLETED WEI  |           | /A      | 2/13/2          |              |
| ION                           |                 |          |                 |                                       |                 |  |             |             | (FT)                  |             |           |         | <i>L)</i> 137.  |              |
| IAT                           | DRILLING F      |          | Accord          | AIR                                   | MUD             | ADDITIV                                  |             |             |                       |             | OUTDOX    | HEDE    | C DIET FOR A DA |              |
| DRILLING & CASING INFORMATION | DRILLING M      | ETHOD:   | ROTA            | RY HAMM                               | IER   CABLI     | ЕТООГ 🚺 ОТН                              | ER SPEC     | CIFY: H     | Iollow Stem           | Auger       | INSTAL    | LED     | F PITLESS ADA   | PIERIS       |
| NFC                           | DEPTH           | (feet bg | 1) <sub>F</sub> | BORE HOLE                             | CASING N        | ATERIAL AND                              | O/OR        |             | an.                   | CASI        | NG        | CAS     | DIC WALL        |              |
| G.                            | FROM            | TC       |                 | DIAM                                  |                 | GRADE                                    |             |             | ASING<br>NECTION      | INSIDE      |           |         | ING WALL        | SLOT<br>SIZE |
| SI                            |                 |          |                 | (inches)                              | (include ea     | ach casing string,<br>ections of screen) | and         | Т           | YPE<br>ling diameter) | (inch       |           |         | (inches)        | (inches)     |
| 72                            | 0               | 10       | 1               | ±6.25                                 |                 | Soil Boring                              |             | (add coup)  |                       |             |           |         |                 |              |
| 85                            |                 |          |                 |                                       |                 |  |             |             |                       |             |           |         |                 |              |
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| 1                             |                 |          |                 |                                       |                 |  | -           |             |                       |             |           | -       |                 |              |
| ŀ                             |                 |          |                 |                                       |                 |  |             |             |                       |             |           |         |                 |              |
|                               |                 |          |                 |                                       | LIST ANNUI      | AR SEAL MATER                            | IAI. ANT    | GRAVET      | PACK SIZE-            |             |           |         |                 |              |
|                               | DEPTH           | (feet bg |                 | BORE HOLE                             | 2.01 1111102    | RANGE BY                                 |             |             | THOIL DILL            | 11          | OUNT      |         | МЕТНО           |              |
| IA!                           | FROM            | TC       | ) D             | IAM. (inches)                         | *(if using Cent | ralizers for Artesia                     | an wells- i | ndicate the | spacing below)        | (cut        | ic feet)  |         | PLACEN          | IENT         |
| TET                           |                 |          |                 |                                       |                 | N  | √A          |             |                       |             |           |         |                 |              |
| MA                            |                 |          |                 |                                       |                 |  |             |             |                       |             |           |         |                 |              |
| AR                            |                 |          |                 |                                       |                 |  |             |             |                       |             |           |         |                 |              |
| 1                             |                 |          |                 |                                       |                 |  |             |             |                       |             |           |         |                 |              |
| ANNULAR MATERIAL              |                 |          |                 |                                       |                 |  |             |             |                       |             |           |         |                 |              |
| 3,                            |                 |          |                 |                                       |                 |  |             |             |                       | TOBS 6      | I. Ro     | SUE.    | LINA            |              |
|                               |                 |          |                 |                                       |                 |  |             |             |                       | 191         | EB 12     | 5 8     | 104             |              |
| FOR                           | OSE INTER       | NAL U    | SE              |                                       |                 |  |             |             | WR-26                 | WELL RI     | ECORD A   | & LOG   | (Version 09/2   | 2/2022)      |
| FILE                          |                 |          |                 |                                       |                 | POD NO                                   |             |             | TRNN                  |             |           |         |                 |              |
| LOC                           | ATION           |          |                 |                                       |                 |  |             |             | WELL TAG II           | ) NO        |           |         | PAGE            | 1 OF 2       |

WELL TAG ID NO.

|                              | DEPTH (        | feet bgl) TO          | THICKNESS<br>(feet)              | INCLUDE WA                              | AND TYPE OF MATERI<br>TER-BEARING CAVITI<br>supplemental sheets to fu | ES OR FRAG              | CTURE ZONES                  | BI                     | WATER<br>EARING?<br>ES / NO) | ESTIMATED<br>YIELD FOR<br>WATER-<br>BEARING<br>ZONES (gpm) |
|------------------------------|----------------|-----------------------|----------------------------------|---|---|-------------------------|------------------------------|------------------------|------------------------------|--|
|                              | 0              | 9                     | 9                                | Sand, fine-gra                          | ined, poorly-graded, unco   | onsolidated, R          | leddish Brown                | 3                      | 7 <b>√</b> N                 | (Or )  |
|                              | 9              | 34                    | 25                               |   | ined, poorly-graded, calid  |                         |                              | 3                      |                              |  |
|                              | 34             | 101                   | 67                               | Sand, fine-gra                          | nined, poorly-graded, unco  | onsolidated, T          | annish Brown                 | 3                      | 7 <b>√</b> N                 |  |
|                              |                |                       |                                  |   |   |                         |                              | 3                      | Y N                          |  |
|                              |                |                       |                                  |   |   |                         |                              | 3                      | . N                          |  |
| پر                           |                |                       |                                  | = ===================================== |   |                         |                              | 3                      | . N                          |  |
| 4. HYDROGEOLOGIC LOG OF WELL |                |                       |                                  |   |   |                         |                              | 3                      | N                            |  |
| Q.                           |                |                       |                                  |   |   |                         |                              | 7                      | N                            |  |
| 9                            |                |                       |                                  |   |   |                         |                              | 7                      | N                            |  |
| [ ];                         |                |                       |                                  |   |   |                         |                              | 7                      | N                            |  |
| 100                          |                |                       |                                  |   |   |                         |                              | Y                      | N                            |  |
| B                            |                |                       |                                  |   |   |                         |                              | Y                      | N                            |  |
| \ <u>8</u>                   |                |                       |                                  |   |   |                         |                              | Y                      | N                            |  |
| HXI                          |                |                       |                                  |   |   |                         |                              | Y                      | N                            |  |
| 4.                           |                |                       |                                  |   |   |                         |                              | Y                      | N                            |  |
|                              |                |                       |                                  |   |   |                         |                              | Y                      | N                            |  |
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|                              |                |                       |                                  |   |   |                         |                              | Y                      | N                            |  |
|                              |                |                       |                                  |   |   |                         |                              | Y                      | N                            |  |
|                              |                |                       |                                  |   |   |                         |                              | Y                      | N                            |  |
|                              |                |                       |                                  |   |   |                         |                              | Y                      | N                            |  |
|                              | METHOD U       | SED TO ES             | TIMATE YIELD                     | OF WATER-BEARI                          | NG STRATA:  |                         |                              | TOTAL ES               |                              |  |
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| NOI                          | WELL TEST      | TEST I                | RESULTS - ATTA<br>TTIME, END TIM | ACH A COPY OF DA<br>ME, AND A TABLE S   | ATA COLLECTED DUR<br>SHOWING DISCHARGI                                | ING WELL T<br>E AND DRA | TESTING, INCI<br>WDOWN OVE   | LUDING DI<br>R THE TES | SCHARGE N<br>FING PERIO      | METHOD,<br>D.  |
| TEST; RIG SUPERVISION        | MISCELLAN      | NEOUS INF             | bel                              |   | rial removed and soil b<br>(bgs), then hydrated be                    |                         |                              |                        | rom total de                 | epth to ten feet   |
| ; RIG                        |                |                       |                                  |   |   |                         | US                           |                        | 15WE                         |  |
| EST                          | PRINT NAM      | E(S) OF DR            | ULL RIG SUPER                    | VISOR(S) THAT PRO                       | OVIDED ONSITE SUPE  | ERVISION O              | F WELL CONS                  | TRUCTION               | OTHER TH                     | AN LICENSEE  |
| 5.1                          | Shane Eldrid   |                       |                                  |   |   |                         |                              |                        |                              | THY BIOLINGED.   |
| SIGNATURE                    | CORRECT R      | ECORD OF<br>ERMIT HOI | THE ABOVE D<br>DER WITHIN 30     | ESCRIBED HOLE A                         | BEST OF HIS OR HER<br>ND THAT HE OR SHE<br>MPLETION OF WELL D         | WILL FILE               | GE AND BELIE<br>THIS WELL RE | EF, THE FOECORD WI     | REGOING IS                   | S A TRUE AND<br>ATE ENGINEER                               |
|                              | Jack Atkins (F | eb 19, 2025           | 5 11:49 MST)                     | J:                                      | ackie D. Atkins   |                         |                              | 02                     | /19/2025                     |  |
| .9                           |                | SIGNATU               | JRE OF DRILLE                    | R / PRINT SIGNEE                        | NAME  |                         | \                            |                        | DATE                         |  |
| FOF                          | OSE INTERN     | NAL USE               |                                  |   | W   |                         | WR-20 WELI                   | RECORD                 | & LOG (Ver                   | sion 09/22/2022)   |
|                              | E NO.          |                       |                                  |   | POD NO.   |                         | TRN NO.                      |                        |                              |  |

WELL TAG ID NO.

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LOCATION



# PLUGGING RECORD



NOTE: A Well Plugging Plan of Operations shall be approved by the State Engineer prior to plugging - 19.27.4 NMAC

|          | ERAL / WELL OWNERSHIP:  |               |                                      |                        |         |
|----------|---|---------------|--------------------------------------|------------------------|---------|
| State Er | ngineer Well Number: C-4922 POD-1 wher: XTO Energy, Inc.                                    |               | . 57                                 | 5 099 2200             |         |
| Well ov  | vner: 3104 E. Groope St   |               | Phone No.: 57                        | 0-900-2390             |         |
| Mailing  | address: 3104 E. Greene St.   |               | Name Manda                           |                        | 00000   |
| City:    | Carlsbad  | _ State:      | New Mexico                           | _ Zip code:            | 88220   |
| II. WE   | LL PLUGGING INFORMATION:  |               |                                      |                        |         |
| 1)       | Name of well drilling company that plugged  | well: Jac     | ckie D. Atkins ( Atkins Engineering  | Associates Ir          | nc.)    |
| 2)       | New Mexico Well Driller License No.: 124  | 19            | Expir                                | ation Date: 0          | 4/30/25 |
| 3)       | Well plugging activities were supervised by Shane Eldridge, Cameron Pruitt                  | the followi   | ing well driller(s)/rig supervisor(s | 3):                    |         |
| 4)       | Date well plugging began: 02/13/2025  |               | Date well plugging concluded:        | 02/13/2025             | i       |
| 5)       | GPS Well Location: Latitude: Longitude:   | 32 d<br>103 d | leg, 8 min, 15.35 leg, 49 min, 54.69 | _ sec<br>_ sec, WGS 8  | 34      |
| 6)       | Depth of well confirmed at initiation of plug<br>by the following manner: water level probe | ging as: _    | 101 ft below ground level (          | bgl),                  |         |
| 7)       | Static water level measured at initiation of p  | lugging:      | n/a ft bgl                           |                        |         |
| 8)       | Date well plugging plan of operations was a   | pproved by    | the State Engineer:12/18/2024        | <u> </u>               |         |
| 9)       | Were all plugging activities consistent with differences between the approved plugging p    |               |                                      |                        |         |
|          |   |               |                                      |                        |         |
|          |   |               |                                      |                        |         |
|          |   |               |                                      |                        |         |
|          |   |               | OSE                                  | DII ROSWE<br>FEB 125 A | LLISM   |
| ,        |   |               | 1.2                                  | FEB ZD R               | tt-64   |
| l '      |   |               |                                      |                        |         |

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10) Log of Plugging Activities - Label vertical scale with depths, and indicate separate plugging intervals with horizontal lines as necessary to illustrate material or methodology changes. Attach additional pages if necessary.

## For each interval plugged, describe within the following columns:

| Depth<br>(ft bgl) | Plugging <u>Material Used</u> (include any additives used) | Volume of<br><u>Material Placed</u><br>(gallons) | Theoretical Volume<br>of Borehole/ Casing<br>(gallons) | Placement  Method (tremie pipe, other) | Comments ("casing perforated first", "open annular space also plugged", etc.) |
|-------------------|--|--|--|--|---|
| _                 | 0-10'<br>Hydrated Bentonite                                | Approx. 15 gallons                               | 15 gallons   | Boring                                 |   |
| ( <del>****</del> | Trydraida Bellionillo                                      |  |  |  |   |
| -                 |  |  |  |  |   |
| -                 | 10'-101'<br>Drill Cuttings                                 | Approx. 145 gallons                              | 145 gallons  | Boring                                 |   |
| _                 | Dim Gallings   | ripprox. The gallerie                            | 1 TO gallons   | Boiling                                |   |
| -                 |  |  |  |  |   |
| _                 |  |  |  |  |   |
| _                 |  |  |  |  |   |
| -                 |  |  |  |  |   |
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| _                 |  |  |  |  |   |
| _                 |  |  |  |  |   |
|                   |  | MULTIPLY E                                       | Y AND OBTAIN   |  |   |
|                   |  | cubic feet x 7.4 cubic yards x 201.9             | 805 = gallons  | OSE DIL                                | ROSWELL NIM   |

## III. SIGNATURE:

I, <u>Jackie D. Atkins</u>, say that I am familiar with the rules of the Office of the State Engineer pertaining to the plugging of wells and that each and all of the statements in this Plugging Record and attachments are true to the best of my knowledge and belief.

02/19/2025

Signature of Well Driller

Date

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# C-4922-WR-20 Well Record and Log-packetforsign

Final Audit Report 2025-02-19

Created:

2025-02-19

Ву:

Lucas Middleton (lucas@atkinseng.com)

Status:

Signed

Transaction ID:

CBJCHBCAABAAS19qCSJ62L7F7PwirrQ3wwRPLdg-upoG

# "C-4922-WR-20 Well Record and Log-packet-forsign" History

- Document created by Lucas Middleton (lucas@atkinseng.com) 2025-02-19 6:33:52 PM GMT
- Document emailed to Jack Atkins (jack@atkinseng.com) for signature 2025-02-19 6:34:38 PM GMT
- Email viewed by Jack Atkins (jack@atkinseng.com) 2025-02-19 6:49:02 PM GMT
- Document e-signed by Jack Atkins (jack@atkinseng.com)
  Signature Date: 2025-02-19 6:49:49 PM GMT Time Source: server
- Agreement completed. 2025-02-19 - 6:49:49 PM GMT

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APPENDIX B CLOSURE REQUEST, JUNE 15, 2023



June 15, 2023

#### **New Mexico Oil Conservation Division**

New Mexico Energy, Minerals, and Natural Resources Department 1220 South St. Francis Drive Santa Fe, New Mexico 87505

Re: Closure Request

Poker Lake Unit 387H Battery Incident Number NMAP1823448856 Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared this *Closure Request* as a follow-up to the *Deferral Request* dated April 11, 2019. This *Closure Request* provides an update to the soil sampling activities completed at the Poker Lake Unit 387H Battery (Site) in response to the denial of the *Deferral Request* by the New Mexico Oil Conservation Division (NMOCD). In the denial, NMOCD indicated that soil samples collected off-pad did not meet reclamation requirements. Based on the additional soil sampling activities described below, XTO is submitting this *Closure Request* and requesting no further action and closure for Incident Number NMAP1823448856.

## SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit D, Section 13, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.137664°, -103.84193°) and is associated with oil and gas exploration and production operations on Federal land managed by the Bureau of Land Management (BLM).

On August 9, 2018, corrosion in the saltwater disposal (SWD) riser caused the release of 631 barrels (bbls) of produced water onto the adjacent pasture and lease road. The area around the riser had been previously excavated for upgrades. The majority of the released fluid was contained within the open excavation; however, some of the fluid flowed east along the lease road. Vacuum trucks were dispatched to the Site and recovered 540 bbls of produced water from the open excavation and 60 bbls from the ground surface. XTO reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 on August 22, 2018. The release was assigned Remediation Permit Number (RP) Number 2RP-4946 and Incident Number NMAP1823448856.

The release is included in the Compliance Agreement for Remediation for Historical Releases (Compliance Agreement) between XTO and the NMOCD effective November 13, 2018. The purpose of the Compliance Agreement is to ensure that reportable releases that occurred prior to or near August 14, 2018, where XTO is responsible for the corrective action, comply with Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC) as amended on August 14, 2018.

XTO Energy, Inc. Closure Request Poker Lake Unit 387H Battery

## **BACKGROUND**

The *Deferral Request* detailed site characterization according to Table 1, Closure Criteria for Soils Impacted by a Release, of 19.15.29 of the NMAC. Results from the site characterization are presented on page 3 of the Form C-141, Site Assessment/Characterization.

Based on the results of the Site Characterization, the following NMOCD Table I Closure Criteria (Closure Criteria) were applied:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

A reclamation requirement of 600 mg/kg chloride was applied to the top 4 feet of the pasture areas that were impacted by the release, per 19.15.29.13.D (1) NMAC for the top 4 feet of areas that will be reclaimed following remediation.

During October and November 2018, delineation and excavation activities were conducted at the Site to address the impacted soil resulting from the August 9, 2018, produced water release. Impacted soil was excavated to the extent possible; however, an estimated 90 cubic yards of impacted soil were left in place for compliance with XTO safety policy regarding earth-moving activities within two feet of active production equipment and pipelines. This policy was enforced where impacted soil was identified within two feet of the active SWD riser and pipelines. The impacted soil left in-place was laterally and vertically delineated to below the Site Closure Criteria. Additional details regarding the delineation and excavation activities can be referenced in the *Deferral Request*, submitted to NMOCD on April 11, 2019.

On March 16, 2023, NMOCD denied the *Deferral Request* for Incident Number NMAP1823448856 for the following reasons:

- Deferral request denied. Per 19.15.29.12 C. (3) The responsible party shall remediate the impacted surface area of a release not occurring on a lined, bermed or otherwise contained exploration, development, production or storage site to meet the standards of Table I of 19.15.29.12 NMAC or other applicable remediation standards and restore and reclaim the area pursuant to 19.15.29.13 NMAC.
- Samples SW03, SW05, SS01, and SS05 returned results above the reclamation standards of 600 mg/kg for chloride and/or 100 mg/kg for TPH.

Upon review of the 2018 soil sample analytical results, assessment samples SS01@0.5, SS01@1', SS05@0.5' and excavation sidewall sample SW05@2' were identified with a TPH concentration greater than 100 mg/kg in the top four feet. A TPH concentration of 100 mg/kg was not applied to off-pad release areas at the time of the original sampling and reporting activities. The *Deferral Request* was submitted on April 11, 2019, prior to the September 6, 2019, publication of the Procedures for Implementation of the Spill Rule guidance document that clarified the TPH requirement (Section II.b.).

Excavation sidewall samples SW03@2' and SW05@2' exceeded 600 mg/kg for chloride in the top four feet; however, these samples were included in the area requested for deferral based on the proximity of the SWD riser and pipelines.



XTO Energy, Inc. Closure Request Poker Lake Unit 387H Battery

## **ADDITIONAL SOIL SAMPLING ACTIVITIES**

On April 13, 2023, Ensolum personnel returned to the Site to complete additional soil sampling activities to assess for the presence or absence of residual impacted soil identified during 2018 at the original SS01, SS05, SW03, and SW05 soil sample locations. Soil samples SS08 and SS08A were collected from depths of 0.5 feet and 1-foot bgs at the original SS01 soil sample location. Soil sample SS09 was collected from a depth of 0.5 feet bgs at the original SS05 soil sample location. Soil samples SW06 and SW07 were collected from depths ranging from the ground surface to 2 feet bgs at the original SW03 and SW05 excavation sidewall sample locations.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of the following constituents of concern (COC): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0. Photographic documentation was completed during the Site visit and a photographic log is included in Appendix A.

Laboratory analytical results for soil samples SS08, SS08A, SS09, SW06, and SW07 indicated that all COC concentrations were compliant with the Site Closure Criteria and the reclamation requirement. The soil sample analytical results are summarized on Table 1 and the laboratory analytical report is included as Appendix B.

### **CLOSURE REQUEST**

Excavation, delineation, and soil sampling activities were completed at the Site to address the impacted soil resulting from the August 9, 2018, produced water release. Based on the additional soil sampling activities completed during April 2023 and laboratory analytical results for all final excavation and delineation soil samples compliant with the Site Closure Criteria and the reclamation requirement in soil samples collected from the top four feet, no further remediation is required.

Initial response efforts, excavation of impacted soil, and natural attenuation have mitigated impacts at this Site. Depth to groundwater has been estimated to be greater than 100 feet bgs at the Site and no other sensitive receptors were identified near the release extent. XTO believes the remedial actions completed are protective of human health, the environment, and groundwater and respectfully requests closure for Incident Number NMAP1823448856

If you have any questions or comments, please contact Ms. Tacoma Morrissey at (337) 257-8307 or tmorrissey@ensolum.com.

Sincerely, **Ensolum**, **LLC** 

Aimee Cole

Senior Managing Scientist

Ashley Ager, P.G. Program Director

cc: Garrett Green, XTO Shelby Pennington, XTO



XTO Energy, Inc. Closure Request Poker Lake Unit 387H Battery

## **Bureau of Land Management**

## Appendices:

Figure 1 Site Receptor Map

Figure 2 Soil Sample Location Map (2018/2023)
Table 1 Soil Sample Analytical Results (2018/2023)

Appendix A Photographic Log (2023)

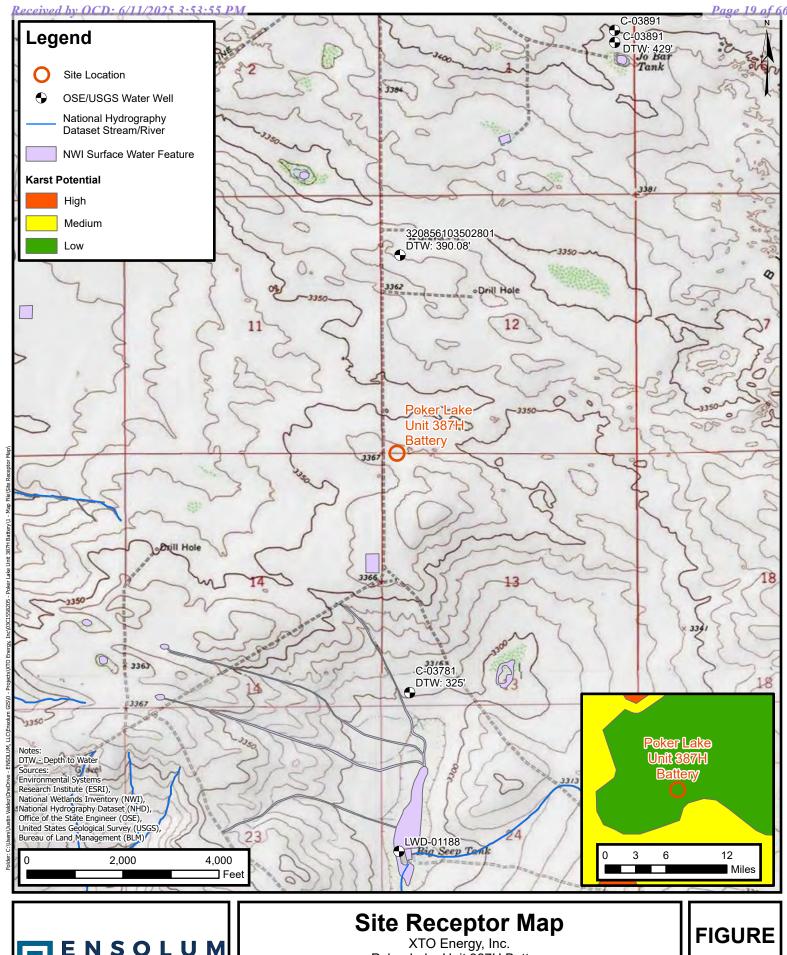
Appendix B Laboratory Analytical Reports & Chain-of-Custody Documentation (2023)

Appendix C NMOCD Notifications





**FIGURES** 





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Poker Lake Unit 387H Battery Incident Number: NMAP1823448856 Unit D, Section 13, Township 25 South, Range 30 East Eddy County, New Mexico

**FIGURE** 





# **Soil Sample Location Map**

XTO Energy, Inc.
Poker Lake Unit 387H Battery
Incident Number: NMAP1823448856
Unit D, Section 13, Township 25 South, Range 30 East
Eddy County, New Mexico

FIGURE 2



**TABLES** 

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# TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS Poker Lake Unit 387H Battery XTO Energy, Inc. Eddy County, New Mexico

| Sample I.D.     | Sample<br>Date     | Sample Depth<br>(feet bgs) | Benzene<br>(mg/kg) | Total BTEX<br>(mg/kg) | TPH GRO<br>(mg/kg) | TPH DRO<br>(mg/kg) | TPH ORO<br>(mg/kg) | GRO+DRO<br>(mg/kg) | Total TPH<br>(mg/kg) | Chloride<br>(mg/kg) |
|-----------------|--------------------|----------------------------|--------------------|-----------------------|--------------------|--------------------|--------------------|--------------------|----------------------|---------------------|
| NMOCD Table I C | Closure Criteria ( | NMAC 19.15.29)             | 10                 | 50                    | NE                 | NE                 | NE                 | 1,000              | 2,500                | 20,000              |
|                 |                    |                            |                    | Delir                 | neation Soil Sa    | mples              |                    |                    |                      |                     |
| BH01*           | 10/26/2018         | 2                          | <0.00200           | <0.00200              | <15.0              | <15.0              | <15.0              | <15.0              | <15.0                | <4.98               |
| BH01            | 10/26/2018         | 4                          | <0.00202           | <0.00202              | <15.0              | <15.0              | <15.0              | <15.0              | <15.0                | <4.96               |
| BH01            | 10/29/2018         | 10.5                       | <0.0188            | <0.0188               | <15.0              | <15.0              | <15.0              | <15.0              | <15.0                | 6.04                |
| BH02*           | 10/26/2018         | 2                          | <0.00201           | <0.00201              | <15.0              | <15.0              | <15.0              | <15.0              | <15.0                | <5.02               |
| BH02            | 10/26/2018         | 4                          | < 0.00199          | <0.00199              | <14.9              | <14.9              | <14.9              | <14.9              | <14.9                | <5.00               |
| BH02            | 10/29/2018         | 14                         | <0.0197            | <0.0197               | <15.0              | <15.0              | <15.0              | <15.0              | <15.0                | 284                 |
| BH03*           | 10/26/2018         | 2                          | <0.00200           | <0.00200              | <15.0              | <15.0              | <15.0              | <15.0              | <15.0                | 45.1                |
| BH03            | 10/26/2018         | 4                          | <0.00201           | <0.00201              | <15.0              | <15.0              | <15.0              | <15.0              | <15.0                | 7,820               |
| SS01*           | 11/1/2018          | 0.5                        | < 0.00199          | 0.00857               | <15.0              | 776                | 130                | 776                | 906                  | 79.1                |
| SS01*           | 11/1/2018          | 1                          | < 0.00199          | 0.00464               | <15.0              | 279                | 51                 | 279                | 330                  | 90.4                |
| SS01            | 11/1/2018          | 4                          | <0.00198           | <0.00198              | <15.0              | 43.9               | <15.0              | 43.9               | 43.9                 | 204                 |
| SS02*           | 11/1/2018          | 0.5                        | <0.00199           | <0.00199              | <15.0              | <15.0              | <15.0              | <15.0              | <15.0                | 16.3                |
| SS02*           | 11/1/2018          | 1                          | <0.00199           | <0.00199              | <15.0              | <15.0              | <15.0              | <15.0              | <15.0                | 13.4                |
| SS03*           | 11/1/2018          | 0.5                        | <0.00200           | <0.00200              | <15.0              | <15.0              | <15.0              | <15.0              | <15.0                | <5.00               |
| SS03*           | 11/1/2018          | 1                          | <0.00200           | <0.00200              | <15.0              | <15.0              | <15.0              | <15.0              | <15.0                | <4.95               |
| SS04*           | 11/1/2018          | 0.5                        | <0.00199           | <0.00199              | <15.0              | 15.5               | <15.0              | 15.5               | 15.5                 | 6.88                |
| SS04*           | 11/1/2018          | 1                          | <0.00199           | <0.00199              | <15.0              | <15.0              | <15.0              | <15.0              | <15.0                | 17.9                |
| SS05*           | 11/1/2018          | 0.5                        | < 0.00199          | <0.00199              | <15.0              | 277                | 43.8               | 277                | 321                  | 36.3                |
| SS05*           | 11/1/2018          | 1                          | < 0.00199          | 0.00242               | <15.0              | 34.2               | <15.0              | 34.2               | 34.2                 | 20.8                |
| SS06*           | 11/1/2018          | 0.5                        | <0.00200           | <0.00200              | <15.0              | 92.7               | <15.0              | 92.7               | 92.7                 | 18.4                |
| SS06*           | 11/1/2018          | 1                          | <0.00198           | 0.00243               | <15.0              | 24.1               | <15.0              | 24.1               | 24.1                 | 45                  |
| SS07*           | 11/1/2018          | 0.5                        | <0.00198           | <0.00198              | <14.9              | 72.5               | <14.9              | 72.5               | 72.5                 | <4.97               |
| SS07*           | 11/1/2018          | 1                          | <0.00198           | <0.00198              | <15.0              | 58.5               | <15.0              | 58.5               | 58.5                 | <5.00               |
| SS08*           | 04/13/2023         | 0.5                        | <0.00202           | <0.00403              | <50.0              | <50.0              | <50.0              | <50.0              | <50.0                | 289                 |
| SS08A*          | 04/13/2023         | 1                          | <0.00199           | 0.00913               | <49.9              | <49.9              | <49.9              | <49.9              | <49.9                | 59.3                |
| SS09*           | 04/13/2023         | 0.5                        | <0.00199           | <0.00398              | <49.8              | <49.8              | <49.8              | <49.8              | <49.8                | 36.2                |

Ensolum 1 of 2

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# TABLE 1 SOIL SAMPLE ANALYTICAL RESULTS Poker Lake Unit 387H Battery XTO Energy, Inc. Eddy County, New Mexico

| Sample I.D.      | Sample<br>Date          | Sample Depth<br>(feet bgs) | Benzene<br>(mg/kg) | Total BTEX<br>(mg/kg) | TPH GRO<br>(mg/kg) | TPH DRO<br>(mg/kg) | TPH ORO<br>(mg/kg) | GRO+DRO<br>(mg/kg) | Total TPH<br>(mg/kg) | Chloride<br>(mg/kg) |  |  |
|------------------|-------------------------|----------------------------|--------------------|-----------------------|--------------------|--------------------|--------------------|--------------------|----------------------|---------------------|--|--|
| NMOCD Table I CI | osure Criteria (        | NMAC 19.15.29)             | 10                 | 50                    | NE                 | NE                 | NE                 | 1,000              | 2,500                | 20,000              |  |  |
|                  | Excavation Soil Samples |                            |                    |                       |                    |                    |                    |                    |                      |                     |  |  |
| SW01*            | 11/1/2018               | 2                          | <0.00198           | <0.00198              | <15.0              | 15.7               | <15.0              | 15.7               | 15.7                 | 56.4                |  |  |
| SW02*            | 11/1/2018               | 2                          | <0.00198           | <0.00198              | <15.0              | <15.0              | <15.0              | <15.0              | <15.0                | 99.7                |  |  |
| SW03*            | 11/1/2018               | 2                          | <0.00200           | <0.00200              | <15.0              | <15.0              | <15.0              | <15.0              | <15.0                | 1,660               |  |  |
| SW04*            | 11/1/2018               | 2                          | <0.00199           | <0.00199              | <14.9              | 15.9               | <14.9              | 15.9               | 15.9                 | 293                 |  |  |
| SW05*            | 11/1/2018               | 2                          | <0.00198           | 0.0765                | 19.7               | 301                | 37.4               | 321                | 358                  | 1,990               |  |  |
| SW06*            | 04/13/2023              | 0 - 2                      | <0.00200           | <0.00399              | <49.8              | <49.8              | <49.8              | <49.8              | <49.8                | 250                 |  |  |
| SW07*            | 04/13/2023              | 0 - 2                      | <0.00200           | <0.00401              | <50.0              | <50.0              | <50.0              | <50.0              | <50.0                | 249                 |  |  |
| FS01             | 11/1/2018               | 4                          | <0.00198           | <0.00198              | <14.9              | 45.8               | <14.9              | 45.8               | 45.8                 | 2,920               |  |  |
| FS02             | 11/1/2018               | 4                          | <0.00200           | <0.00200              | <15.0              | 145                | 21.4               | 145                | 166                  | 2,790               |  |  |
| FS03             | 11/1/2018               | 4                          | <0.00200           | <0.00200              | <15.0              | 26.1               | <15.0              | 26.1               | 26.1                 | 3,080               |  |  |
| FS04             | 11/1/2018               | 4                          | <0.00198           | <0.00198              | <15.0              | 15.8               | <15.0              | 15.8               | 15.8                 | 2,180               |  |  |
| FS05             | 11/1/2018               | 4                          | <0.00198           | <0.00198              | <15.0              | <15.0              | <15.0              | <15.0              | <15.0                | 861                 |  |  |

## Notes:

bgs: below ground surface mg/kg: milligrams per kilogram

 ${\it NMOCD: New Mexico Oil Conservation Division}$ 

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

Concentrations in **bold** exceed the NMOCD Table I Closure Criteria or reclamation requirement where applicable.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMAC: New Mexico Administrative Code

Grey text indicates 2018 soil sample that was re-sampled/replaced by 2023 soil sample.

Ensolum 2 of 2

<sup>\* -</sup>indicates sample was collected in the top 4 feet of an area to be reclaimed after remediation is complete



APPENDIX A

Photographic Log



## **Photographic Log**

XTO Energy, Inc.
Poker Lake Unit 387H Battery
Incident Number NMAP1823448856





Photograph: 1 Date: 4/13/2023

Description: View of historical release area.

Photograph: 2 Date: 4/13/2023

Description: View of historical release area.





Photograph: 3 Date: 4/13/2023

Description: View of historical release area.

Photograph: 4 Date: 4/13/2023

Description: View of historical release area.



**APPENDIX B** 

Laboratory Analytical Reports & Chain of Custody Documentation

**Environment Testing** 

# **ANALYTICAL REPORT**

## PREPARED FOR

Attn: Tacoma Morrissey Ensolum 601 N. Marienfeld St. Suite 400 Midland, Texas 79701 Generated 4/19/2023 12:23:03 PM

# **JOB DESCRIPTION**

PLU 387H SDG NUMBER 03C1558205

## **JOB NUMBER**

890-4513-1

Eurofins Carlsbad 1089 N Canal St. Carlsbad NM 88220

# **Eurofins Carlsbad**

## **Job Notes**

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

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**

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Authorized for release by Jessica Kramer, Project Manager Jessica.Kramer@et.eurofinsus.com (432)704-5440

Eurofins Carlsbad is a laboratory within Eurofins Environment Testing South Central, LLC, a company within Eurofins Environment Testing Group of

Page 2 of 24 4/19/2023 Released to Imaging: 7/23/2025 1:49:11 PM

Client: Ensolum
Project/Site: PLU 387H

Laboratory Job ID: 890-4513-1
SDG: 03C1558205

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## **Definitions/Glossary**

 Client: Ensolum
 Job ID: 890-4513-1

 Project/Site: PLU 387H
 SDG: 03C1558205

**Qualifiers** 

**GC VOA** 

Qualifier Description

U Indicates the analyte was analyzed for but not detected.

GC Semi VOA

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.

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

**Eurofins Carlsbad** 

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## **Case Narrative**

 Client: Ensolum
 Job ID: 890-4513-1

 Project/Site: PLU 387H
 SDG: 03C1558205

Job ID: 890-4513-1

**Laboratory: Eurofins Carlsbad** 

Narrative

Job Narrative 890-4513-1

#### Receipt

The samples were received on 4/13/2023 2:14 PM. 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  $4.0^{\circ}$ C

### **Receipt Exceptions**

The following samples analyzed for method <FRACTION\_METHOD> were received and analyzed from an unpreserved bulk soil jar: SS08 (890-4513-1), SS08A (890-4513-2), SS09 (890-4513-3), SW06 (890-4513-4) and SW07 (890-4513-5).

#### **GC VOA**

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

#### GC Semi VOA

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 for preparation batch 880-51313 and analytical batch 880-51409 were outside control limits for one or more analytes, see QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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Lab Sample ID: 890-4513-1

 Client: Ensolum
 Job ID: 890-4513-1

 Project/Site: PLU 387H
 SDG: 03C1558205

Client Sample ID: SS08

Date Collected: 04/13/23 09:40 Date Received: 04/13/23 14:14

Sample Depth: 0.5

| Analyte   | Result                                    | Qualifier   | RL   | Unit               | D        | Prepared   | Analyzed   | Dil Fac  |
|---|---|---|--|--------------------|----------|--|--|--|
| Benzene   | <0.00202                                  | U   | 0.00202  | mg/Kg              |          | 04/17/23 13:48   | 04/18/23 17:55   | 1  |
| Toluene   | <0.00202                                  | U   | 0.00202  | mg/Kg              |          | 04/17/23 13:48   | 04/18/23 17:55   | 1  |
| Ethylbenzene  | <0.00202                                  | U   | 0.00202  | mg/Kg              |          | 04/17/23 13:48   | 04/18/23 17:55   | 1  |
| m-Xylene & p-Xylene   | <0.00403                                  | U   | 0.00403  | mg/Kg              |          | 04/17/23 13:48   | 04/18/23 17:55   | 1  |
| o-Xylene  | <0.00202                                  | U   | 0.00202  | mg/Kg              |          | 04/17/23 13:48   | 04/18/23 17:55   | 1  |
| Xylenes, Total  | <0.00403                                  | U   | 0.00403  | mg/Kg              |          | 04/17/23 13:48   | 04/18/23 17:55   | 1  |
| Surrogate   | %Recovery                                 | Qualifier   | Limits   |                    |          | Prepared   | Analyzed   | Dil Fac  |
| 4-Bromofluorobenzene (Surr)   | 105                                       |   | 70 - 130   |                    |          | 04/17/23 13:48   | 04/18/23 17:55   | 1  |
| 1,4-Difluorobenzene (Surr)  | 101                                       |   | 70 - 130   |                    |          | 04/17/23 13:48   | 04/18/23 17:55   | 1  |
| Method: TAL SOP Total BTEX - 1  | Total BTEX Cald                           | culation  |  |                    |          |  |  |  |
| Analyte   | Result                                    | Qualifier   | RL   | Unit               | D        | Prepared   | Analyzed   | Dil Fac  |
| Total BTEX  | <0.00403                                  | O   | 0.00403  | mg/Kg              |          |  | 04/19/23 12:34   | 1  |
| -   |   |   |  |                    |          |  |  |  |
| Method: SW846 8015 NM - Diese   | el Range Organ                            | ics (DRO) (                                       | GC)  |                    |          |  |  |  |
|   | •   | ics (DRO) (<br>Qualifier                          | GC)<br>RL  | Unit               | D        | Prepared   | Analyzed   | Dil Fac  |
| Method: SW846 8015 NM - Diese<br>Analyte<br>Total TPH   | •   | Qualifier   | •  | Unit mg/Kg         | <u>D</u> | Prepared   | Analyzed 04/18/23 09:33  |  |
| Analyte   | Result < 50.0                             | Qualifier U                                       | <b>RL</b> 50.0   |                    | <u>D</u> | Prepared   |  |  |
| Analyte Total TPH   | Result  <50.0 sel Range Orga              | Qualifier U                                       | <b>RL</b> 50.0   |                    | <u>D</u> | Prepared Prepared  |  | 1  |
| Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics  | Result  <50.0 sel Range Orga              | Qualifier Unics (DRO) Qualifier                   | RL 50.0  | mg/Kg              |          | <u> </u>   | 04/18/23 09:33   | 1 Dil Fac  |
| Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over   | Result <50.0  sel Range Orga Result       | Qualifier U  nics (DRO) Qualifier U               | RL 50.0 (GC)   | mg/Kg              |          | Prepared   | 04/18/23 09:33  Analyzed   | Dil Fac  |
| Analyte Total TPH  Method: SW846 8015B NM - Dies  | Result <50.0  sel Range Orga Result <50.0 | Qualifier U  nics (DRO) Qualifier U               | RL 50.0 (GC) RL 50.0   | mg/Kg  Unit  mg/Kg |          | Prepared 04/17/23 09:25  | 04/18/23 09:33  Analyzed 04/17/23 12:47  | Dil Fac  |
| Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28)  | Result   <50.0                            | Qualifier U  nics (DRO) Qualifier U  U            | RL 50.0 (GC) RL 50.0 50.0                                      | mg/Kg  Unit  mg/Kg |          | Prepared 04/17/23 09:25 04/17/23 09:25   | 04/18/23 09:33  Analyzed 04/17/23 12:47 04/17/23 12:47                           | 1 Dil Fac  |
| Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  | Result   <50.0                            | Qualifier U  nics (DRO) Qualifier U  U            | RL<br>50.0<br>(GC)<br>RL<br>50.0<br>50.0                       | mg/Kg  Unit  mg/Kg |          | Prepared 04/17/23 09:25 04/17/23 09:25   | 04/18/23 09:33  Analyzed 04/17/23 12:47 04/17/23 12:47                           | Dil Fac  |
| Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane              | Result   <50.0                            | Qualifier U  nics (DRO) Qualifier U  U            | RL 50.0  (GC)  RL 50.0  50.0  50.0  Limits                     | mg/Kg  Unit  mg/Kg |          | Prepared 04/17/23 09:25 04/17/23 09:25 04/17/23 09:25 Prepared                 | 04/18/23 09:33  Analyzed 04/17/23 12:47 04/17/23 12:47 04/17/23 12:47  Analyzed  | Dil Fac  |
| Analyte Total TPH  Method: SW846 8015B NM - Dies Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) Oll Range Organics (Over C28-C36)  Surrogate                             | Result   <50.0                            | Qualifier U  nics (DRO) Qualifier U  U  Qualifier | RL 50.0  (GC)  RL 50.0  50.0  50.0  Limits  70 - 130  70 - 130 | mg/Kg  Unit  mg/Kg |          | Prepared 04/17/23 09:25 04/17/23 09:25 04/17/23 09:25  Prepared 04/17/23 09:25 | 04/18/23 09:33  Analyzed 04/17/23 12:47  04/17/23 12:47  Analyzed 04/17/23 12:47 | Dil Fac  1  1  Dil Fac  1  Dil Fac                   |
| Analyte Total TPH  Method: SW846 8015B NM - Diese Analyte Gasoline Range Organics (GRO)-C6-C10 Diesel Range Organics (Over C10-C28) OII Range Organics (Over C28-C36)  Surrogate 1-Chlorooctane o-Terphenyl | Result                                    | Qualifier U  nics (DRO) Qualifier U  U  Qualifier | RL 50.0  (GC)  RL 50.0  50.0  50.0  Limits  70 - 130  70 - 130 | mg/Kg  Unit  mg/Kg |          | Prepared 04/17/23 09:25 04/17/23 09:25 04/17/23 09:25  Prepared 04/17/23 09:25 | 04/18/23 09:33  Analyzed 04/17/23 12:47  04/17/23 12:47  Analyzed 04/17/23 12:47 | Dil Fac  Dil Fac  1  Dil Fac  1  Dil Fac  1  Dil Fac |

Client Sample ID: SS08A Lab Sample ID: 890-4513-2

Date Collected: 04/13/23 09:45 Date Received: 04/13/23 14:14

Sample Depth: 1

| Analyte                     | Result    | Qualifier | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|-------|---|----------------|----------------|---------|
| Benzene                     | <0.00199  | U         | 0.00199  | mg/Kg |   | 04/17/23 13:48 | 04/18/23 18:15 | 1       |
| Toluene                     | 0.00913   |           | 0.00199  | mg/Kg |   | 04/17/23 13:48 | 04/18/23 18:15 | 1       |
| Ethylbenzene                | <0.00199  | U         | 0.00199  | mg/Kg |   | 04/17/23 13:48 | 04/18/23 18:15 | 1       |
| m-Xylene & p-Xylene         | <0.00398  | U         | 0.00398  | mg/Kg |   | 04/17/23 13:48 | 04/18/23 18:15 | 1       |
| o-Xylene                    | <0.00199  | U         | 0.00199  | mg/Kg |   | 04/17/23 13:48 | 04/18/23 18:15 | 1       |
| Xylenes, Total              | <0.00398  | U         | 0.00398  | mg/Kg |   | 04/17/23 13:48 | 04/18/23 18:15 | 1       |
| Surrogate                   | %Recovery | Qualifier | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 107       |           | 70 - 130 |       |   | 04/17/23 13:48 | 04/18/23 18:15 | 1       |

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**Matrix: Solid** 

Lab Sample ID: 890-4513-2

## **Client Sample Results**

Client: Ensolum Job ID: 890-4513-1 Project/Site: PLU 387H SDG: 03C1558205

Client Sample ID: SS08A

Date Collected: 04/13/23 09:45 Date Received: 04/13/23 14:14

Sample Depth: 1

| Method: SW846 8021B - Volatile Or  | ganic Compounds | (GC) | (Continued)  |
|--|-----------------|------|--------------|
| modification of the court of th | gaine compounds |      | ( Continuou) |

| Surrogate                  | %Recovery Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------------------|---------------------|----------|----------------|----------------|---------|
| 1.4-Difluorobenzene (Surr) | 106                 | 70 - 130 | 04/17/23 13:48 | 04/18/23 18:15 | 1       |

| I Method: IAL SUPTOM DTEX - IOM DTEX C | Method: TAL SOP Total BTEX - Total BTEX Calculati | on |
|--|---|----|

| Analyte    | Result  | Qualifier | RL      | Unit  | D | Prepared | Analyzed       | Dil Fac |
|------------|---------|-----------|---------|-------|---|----------|----------------|---------|
| Total BTEX | 0.00913 |           | 0.00398 | mg/Kg |   |          | 04/19/23 12:34 | 1       |

| Analyte   | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Total TPH | <49.9  | U         | 49.9 | mg/Kg |   |          | 04/18/23 09:33 | 1       |

| Method: SW846 8015B    | NM - Diesel Rand    | ge Organics | (DRO)  | (GC) |
|------------------------|---------------------|-------------|--------|------|
| Michiga. Offord out ob | ININ - Dieser Itali | ge Organics | (DitO) | (00) |

| Analyte                                 | Result    | Qualifier | RL     | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---|-----------|-----------|--------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics<br>(GRO)-C6-C10 | <49.9     | U         | 49.9   | mg/Kg |   | 04/17/23 09:25 | 04/17/23 13:54 | 1       |
| Diesel Range Organics (Over C10-C28)    | <49.9     | U         | 49.9   | mg/Kg |   | 04/17/23 09:25 | 04/17/23 13:54 | 1       |
| OII Range Organics (Over C28-C36)       | <49.9     | U         | 49.9   | mg/Kg |   | 04/17/23 09:25 | 04/17/23 13:54 | 1       |
| Surrogate                               | %Recovery | Qualifier | Limits |       |   | Prepared       | Analyzed       | Dil Fac |

| Surrogate      | %Recovery | Qualifier | Limits   |   | Prepared       | Analyzed       | Dil Fac |
|----------------|-----------|-----------|----------|---|----------------|----------------|---------|
| 1-Chlorooctane | 75        |           | 70 - 130 |   | 04/17/23 09:25 | 04/17/23 13:54 | 1       |
| o-Terphenyl    | 81        |           | 70 - 130 | C | 04/17/23 09:25 | 04/17/23 13:54 | 1       |

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte  | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Chloride | 59.3   |           | 5.03 | mg/Kg |   |          | 04/17/23 23:33 | 1       |

**Client Sample ID: SS09** Lab Sample ID: 890-4513-3

Date Collected: 04/13/23 09:50 Date Received: 04/13/23 14:14

Sample Depth: 0.5

| <br>Mathad. | CIMO 4C | 0024B   | Valatila Ossania   | Compounds (GC)   |
|-------------|---------|---------|--------------------|------------------|
| viernoa:    | SVVA4n  | AUZID . | · voiatile Organic | : Compounds (GC) |

| Analyte                     | Result    | Qualifier | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|-------|---|----------------|----------------|---------|
| Benzene                     | <0.00199  | U         | 0.00199  | mg/Kg |   | 04/17/23 13:48 | 04/18/23 18:36 | 1       |
| Toluene                     | <0.00199  | U         | 0.00199  | mg/Kg |   | 04/17/23 13:48 | 04/18/23 18:36 | 1       |
| Ethylbenzene                | <0.00199  | U         | 0.00199  | mg/Kg |   | 04/17/23 13:48 | 04/18/23 18:36 | 1       |
| m-Xylene & p-Xylene         | <0.00398  | U         | 0.00398  | mg/Kg |   | 04/17/23 13:48 | 04/18/23 18:36 | 1       |
| o-Xylene                    | <0.00199  | U         | 0.00199  | mg/Kg |   | 04/17/23 13:48 | 04/18/23 18:36 | 1       |
| Xylenes, Total              | <0.00398  | U         | 0.00398  | mg/Kg |   | 04/17/23 13:48 | 04/18/23 18:36 | 1       |
| Surrogate                   | %Recovery | Qualifier | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 108       |           | 70 - 130 |       |   | 04/17/23 13:48 | 04/18/23 18:36 | 1       |
| 1,4-Difluorobenzene (Surr)  | 107       |           | 70 - 130 |       |   | 04/17/23 13:48 | 04/18/23 18:36 | 1       |

| Mothod: TAI | SOP Total RTFY | - Total RTFY | Calculation |
|-------------|----------------|--------------|-------------|

| Analyte    | Result   | Qualifier | RL      | Unit  | D | Prepared | Analyzed       | Dil Fac |
|------------|----------|-----------|---------|-------|---|----------|----------------|---------|
| Total BTEX | <0.00398 | U         | 0.00398 | ma/Ka |   |          | 04/19/23 12:34 | 1       |

| Analyte   | Result | Qualifier | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
|-----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Total TPH | <49.8  | U         | 49.8 | mg/Kg |   |          | 04/18/23 09:33 | 1       |

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Matrix: Solid

4/19/2023

Lab Sample ID: 890-4513-3

## **Client Sample Results**

Client: Ensolum Job ID: 890-4513-1 Project/Site: PLU 387H SDG: 03C1558205

**Client Sample ID: SS09** 

Date Collected: 04/13/23 09:50 Date Received: 04/13/23 14:14

Sample Depth: 0.5

| Analyte                              | Result       | Qualifier   | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|--------------------------------------|--------------|-------------|----------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics              | <49.8        | U           | 49.8     | mg/Kg |   | 04/17/23 09:25 | 04/17/23 14:17 | 1       |
| (GRO)-C6-C10                         |              |             |          |       |   |                |                |         |
| Diesel Range Organics (Over          | <49.8        | U           | 49.8     | mg/Kg |   | 04/17/23 09:25 | 04/17/23 14:17 | 1       |
| C10-C28)                             |              |             |          |       |   |                |                |         |
| Oll Range Organics (Over C28-C36)    | <49.8        | U           | 49.8     | mg/Kg |   | 04/17/23 09:25 | 04/17/23 14:17 | 1       |
| Surrogate                            | %Recovery    | Qualifier   | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 1-Chlorooctane                       | 74           |             | 70 - 130 |       |   | 04/17/23 09:25 | 04/17/23 14:17 | 1       |
| o-Terphenyl                          | 80           |             | 70 - 130 |       |   | 04/17/23 09:25 | 04/17/23 14:17 | 1       |
| -<br>Method: EPA 300.0 - Anions, Ion | Chromatograp | hy - Solubl | le       |       |   |                |                |         |
| Analyte                              | Result       | Qualifier   | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|                                      |              |             |          |       |   |                |                |         |

**Client Sample ID: SW06** Lab Sample ID: 890-4513-4 Date Collected: 04/13/23 10:30 Matrix: Solid

Date Received: 04/13/23 14:14

Sample Depth: 0 - 2

| Analyte                                 | Result         | Qualifier   | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---|----------------|-------------|----------|-------|---|----------------|----------------|---------|
| Benzene                                 | <0.00200       | U           | 0.00200  | mg/Kg |   | 04/17/23 13:48 | 04/18/23 18:56 | 1       |
| Toluene                                 | <0.00200       | U           | 0.00200  | mg/Kg |   | 04/17/23 13:48 | 04/18/23 18:56 | 1       |
| Ethylbenzene                            | <0.00200       | U           | 0.00200  | mg/Kg |   | 04/17/23 13:48 | 04/18/23 18:56 | 1       |
| m-Xylene & p-Xylene                     | <0.00399       | U           | 0.00399  | mg/Kg |   | 04/17/23 13:48 | 04/18/23 18:56 | 1       |
| o-Xylene                                | <0.00200       | U           | 0.00200  | mg/Kg |   | 04/17/23 13:48 | 04/18/23 18:56 | 1       |
| Xylenes, Total                          | <0.00399       | U           | 0.00399  | mg/Kg |   | 04/17/23 13:48 | 04/18/23 18:56 | 1       |
| Surrogate                               | %Recovery      | Qualifier   | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 4-Bromofluorobenzene (Surr)             | 108            |             | 70 - 130 |       |   | 04/17/23 13:48 | 04/18/23 18:56 | 1       |
| 1,4-Difluorobenzene (Surr)              | 104            |             | 70 - 130 |       |   | 04/17/23 13:48 | 04/18/23 18:56 | 1       |
| Method: TAL SOP Total BTEX - 1          | otal BTEX Cald | culation    |          |       |   |                |                |         |
| Analyte                                 | Result         | Qualifier   | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Total BTEX                              | <0.00399       | U           | 0.00399  | mg/Kg |   |                | 04/19/23 12:34 | 1       |
| Method: SW846 8015 NM - Diese           | l Range Organ  | ics (DRO) ( | GC)      |       |   |                |                |         |
| Analyte                                 | Result         | Qualifier   | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Total TPH                               | <49.8          | U           | 49.8     | mg/Kg |   |                | 04/18/23 09:33 | 1       |
| Method: SW846 8015B NM - Dies           | sel Range Orga | nics (DRO)  | (GC)     |       |   |                |                |         |
| Analyte                                 |                | Qualifier   | RL       | Unit  | D | Prepared       | Analyzed       | Dil Fac |
| Gasoline Range Organics<br>(GRO)-C6-C10 | <49.8          | U           | 49.8     | mg/Kg |   | 04/17/23 09:25 | 04/17/23 14:39 | 1       |
| Diesel Range Organics (Over C10-C28)    | <49.8          | U           | 49.8     | mg/Kg |   | 04/17/23 09:25 | 04/17/23 14:39 | 1       |
| Oll Range Organics (Over C28-C36)       | <49.8          | U           | 49.8     | mg/Kg |   | 04/17/23 09:25 | 04/17/23 14:39 | 1       |
| Surrogate                               | %Recovery      | Qualifier   | Limits   |       |   | Prepared       | Analyzed       | Dil Fac |
| 1-Chlorooctane                          | 74             |             | 70 - 130 |       |   | 04/17/23 09:25 | 04/17/23 14:39 | 1       |
|   |                |             |          |       |   |                |                |         |

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Lab Sample ID: 890-4513-4

## **Client Sample Results**

 Client: Ensolum
 Job ID: 890-4513-1

 Project/Site: PLU 387H
 SDG: 03C1558205

Client Sample ID: SW06

Date Collected: 04/13/23 10:30 Date Received: 04/13/23 14:14

Sample Depth: 0 - 2

| Method: EPA 300.0 - Anions, Ion C | hromatograph | y - Soluble |      |       |   |          |                |         |
|-----------------------------------|--------------|-------------|------|-------|---|----------|----------------|---------|
| Analyte                           | Result C     | Qualifier   | RL   | Unit  | D | Prepared | Analyzed       | Dil Fac |
| Chloride                          | 250          |             | 24.8 | mg/Kg |   |          | 04/17/23 23:42 | 5       |

Client Sample ID: SW07

Date Collected: 04/13/23 11:10

Lab Sample ID: 890-4513-5

Matrix: Solid

Date Collected: 04/13/23 11:10 Date Received: 04/13/23 14:14

Sample Depth: 0 - 2

| Analyte   | Result          | Qualifier | RL       | Unit          | D        | Prepared       | Analyzed                | Dil Fac |
|---|-----------------|-----------|----------|---------------|----------|----------------|-------------------------|---------|
| Benzene   | <0.00200        | U         | 0.00200  | mg/Kg         |          | 04/17/23 13:48 | 04/18/23 19:37          |         |
| Toluene   | <0.00200        | U         | 0.00200  | mg/Kg         |          | 04/17/23 13:48 | 04/18/23 19:37          |         |
| Ethylbenzene  | <0.00200        | U         | 0.00200  | mg/Kg         |          | 04/17/23 13:48 | 04/18/23 19:37          |         |
| m-Xylene & p-Xylene                                   | <0.00401        | U         | 0.00401  | mg/Kg         |          | 04/17/23 13:48 | 04/18/23 19:37          |         |
| o-Xylene  | <0.00200        | U         | 0.00200  | mg/Kg         |          | 04/17/23 13:48 | 04/18/23 19:37          | 1       |
| Xylenes, Total  | <0.00401        | U         | 0.00401  | mg/Kg         |          | 04/17/23 13:48 | 04/18/23 19:37          | •       |
| Surrogate   | %Recovery       | Qualifier | Limits   |               |          | Prepared       | Analyzed                | Dil Fa  |
| 4-Bromofluorobenzene (Surr)                           | 112             |           | 70 - 130 |               |          | 04/17/23 13:48 | 04/18/23 19:37          |         |
| 1,4-Difluorobenzene (Surr)                            | 110             |           | 70 - 130 |               |          | 04/17/23 13:48 | 04/18/23 19:37          | 1       |
| Method: TAL SOP Total BTEX - T                        | Total BTEX Cald | culation  |          |               |          |                |                         |         |
| Analyte   | Result          | Qualifier | RL       | Unit          | D        | Prepared       | Analyzed                | Dil Fa  |
| Total BTEX  | <0.00401        | U         | 0.00401  | mg/Kg         |          |                | 04/19/23 12:34          |         |
| Method: SW846 8015 NM - Diese<br>Analyte<br>Total TPH | •               | Qualifier | RL 50.0  | Unit<br>mg/Kg | <u>D</u> | Prepared       | Analyzed 04/18/23 09:33 | Dil Fa  |
|   |                 |           |          | mg/rtg        |          |                | 04/10/20 00:00          |         |
| Method: SW846 8015B NM - Dies                         |                 |           | • •      |               | _        |                |                         |         |
| Analyte   |                 | Qualifier | RL       | Unit          | D        | Prepared       | Analyzed                | Dil Fac |
| Gasoline Range Organics<br>(GRO)-C6-C10               | <50.0           | U         | 50.0     | mg/Kg         |          | 04/17/23 09:25 | 04/17/23 15:02          | 1       |
| Diesel Range Organics (Over<br>C10-C28)               | <50.0           | U         | 50.0     | mg/Kg         |          | 04/17/23 09:25 | 04/17/23 15:02          | ,       |
| OII Range Organics (Over C28-C36)                     | <50.0           | U         | 50.0     | mg/Kg         |          | 04/17/23 09:25 | 04/17/23 15:02          | ,       |
| Surrogate   | %Recovery       | Qualifier | Limits   |               |          | Prepared       | Analyzed                | Dil Fa  |
| 1-Chlorooctane  | 84              |           | 70 - 130 |               |          | 04/17/23 09:25 | 04/17/23 15:02          |         |
| o-Terphenyl   | 85              |           | 70 - 130 |               |          | 04/17/23 09:25 | 04/17/23 15:02          |         |
| Method: EPA 300.0 - Anions, Ion                       | • •             | -         |          |               |          |                |                         |         |
| Analyte   | Result          | Qualifier | RL       | Unit          | D        | Prepared       | Analyzed                | Dil Fac |
| Chloride  | 249             |           | 24.8     | mg/Kg         |          |                | 04/17/23 23:47          | 5       |

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## **Surrogate Summary**

Job ID: 890-4513-1 Client: Ensolum Project/Site: PLU 387H SDG: 03C1558205

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid Prep Type: Total/NA

|                    |                        | BFB1     | DFBZ1    | Percent Surrogate Recovery (Acceptance Limits) |
|--------------------|------------------------|----------|----------|--|
| Lab Sample ID      | Client Sample ID       | (70-130) | (70-130) |  |
| 890-4513-1         | SS08                   | 105      | 101      |  |
| 890-4513-2         | SS08A                  | 107      | 106      |  |
| 890-4513-3         | SS09                   | 108      | 107      |  |
| 890-4513-4         | SW06                   | 108      | 104      |  |
| 890-4513-5         | SW07                   | 112      | 110      |  |
| 890-4515-A-1-C MS  | Matrix Spike           | 107      | 112      |  |
| 890-4515-A-1-D MSD | Matrix Spike Duplicate | 109      | 107      |  |
| LCS 880-51325/1-A  | Lab Control Sample     | 104      | 111      |  |
| LCSD 880-51325/2-A | Lab Control Sample Dup | 105      | 112      |  |
| MB 880-51325/5-A   | Method Blank           | 92       | 97       |  |

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) |
|--------------------|------------------------|----------|----------|--|
|                    |                        | 1CO1     | OTPH1    |  |
| Lab Sample ID      | Client Sample ID       | (70-130) | (70-130) |  |
| 890-4513-1         | SS08                   | 72       | 73       |  |
| 890-4513-1 MS      | SS08                   | 84       | 75       |  |
| 890-4513-1 MSD     | SS08                   | 76       | 70       |  |
| 890-4513-2         | SS08A                  | 75       | 81       |  |
| 890-4513-3         | SS09                   | 74       | 80       |  |
| 890-4513-4         | SW06                   | 74       | 78       |  |
| 890-4513-5         | SW07                   | 84       | 85       |  |
| LCS 880-51297/2-A  | Lab Control Sample     | 98       | 97       |  |
| LCSD 880-51297/3-A | Lab Control Sample Dup | 86       | 87       |  |
| MB 880-51297/1-A   | Method Blank           | 108      | 120      |  |

**Surrogate Legend** 

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

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Client: Ensolum Job ID: 890-4513-1 SDG: 03C1558205 Project/Site: PLU 387H

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-51325/5-A

**Matrix: Solid** Analysis Batch: 51362 Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 51325

| MB | MB |
|----|----|
|    |    |

| Analyte             | Result   | Qualifier | RL      | Unit  | D | Prepared       | Analyzed       | Dil Fac |
|---------------------|----------|-----------|---------|-------|---|----------------|----------------|---------|
| Benzene             | <0.00200 | U         | 0.00200 | mg/Kg |   | 04/17/23 13:48 | 04/18/23 12:11 | 1       |
| Toluene             | <0.00200 | U         | 0.00200 | mg/Kg |   | 04/17/23 13:48 | 04/18/23 12:11 | 1       |
| Ethylbenzene        | <0.00200 | U         | 0.00200 | mg/Kg |   | 04/17/23 13:48 | 04/18/23 12:11 | 1       |
| m-Xylene & p-Xylene | <0.00400 | U         | 0.00400 | mg/Kg |   | 04/17/23 13:48 | 04/18/23 12:11 | 1       |
| o-Xylene            | <0.00200 | U         | 0.00200 | mg/Kg |   | 04/17/23 13:48 | 04/18/23 12:11 | 1       |
| Xylenes, Total      | <0.00400 | U         | 0.00400 | mg/Kg |   | 04/17/23 13:48 | 04/18/23 12:11 | 1       |
|                     |          |           |         |       |   |                |                |         |

MB MB

| Surrogate                   | %Recovery C | Qualifier Limi | s Prepare     | ed Analyzed                       | Dil Fac |
|-----------------------------|-------------|----------------|---------------|-----------------------------------|---------|
| 4-Bromofluorobenzene (Surr) | 92          | 70 - 1         | 30 04/17/23 1 | 13:48 04/18/23 12:1               | 1 1     |
| 1.4-Difluorobenzene (Surr)  | 97          | 70 - 1         | 30 04/17/23 1 | 13:48 04/18/23 12:1 <sup>-1</sup> | 1 1     |

Lab Sample ID: LCS 880-51325/1-A

Matrix: Solid

Analysis Batch: 51362

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 51325

|                     | Spike | LCS     | LCS       |       |   |      | %Rec     |  |
|---------------------|-------|---------|-----------|-------|---|------|----------|--|
| Analyte             | Added | Result  | Qualifier | Unit  | D | %Rec | Limits   |  |
| Benzene             | 0.100 | 0.09727 |           | mg/Kg |   | 97   | 70 - 130 |  |
| Toluene             | 0.100 | 0.09414 |           | mg/Kg |   | 94   | 70 - 130 |  |
| Ethylbenzene        | 0.100 | 0.08776 |           | mg/Kg |   | 88   | 70 - 130 |  |
| m-Xylene & p-Xylene | 0.200 | 0.1761  |           | mg/Kg |   | 88   | 70 - 130 |  |
| o-Xylene            | 0.100 | 0.08791 |           | mg/Kg |   | 88   | 70 - 130 |  |
|                     |       |         |           |       |   |      |          |  |

LCS LCS

| Surrogate                   | %Recovery Qua | alifier Limits |
|-----------------------------|---------------|----------------|
| 4-Bromofluorobenzene (Surr) | 104           | 70 - 130       |
| 1,4-Difluorobenzene (Surr)  | 111           | 70 - 130       |

Lab Sample ID: LCSD 880-51325/2-A

**Matrix: Solid** 

Analysis Batch: 51362

| Client Sample | ID: Lab | Control | Sample | Dup |
|---------------|---------|---------|--------|-----|
|---------------|---------|---------|--------|-----|

Prep Type: Total/NA

Prep Batch: 51325

|                     | Spike | LCSD    | LCSD      |       |   |      | %Rec     |     | RPD   |  |
|---------------------|-------|---------|-----------|-------|---|------|----------|-----|-------|--|
| Analyte             | Added | Result  | Qualifier | Unit  | D | %Rec | Limits   | RPD | Limit |  |
| Benzene             | 0.100 | 0.1032  |           | mg/Kg |   | 103  | 70 - 130 | 6   | 35    |  |
| Toluene             | 0.100 | 0.1006  |           | mg/Kg |   | 101  | 70 - 130 | 7   | 35    |  |
| Ethylbenzene        | 0.100 | 0.09382 |           | mg/Kg |   | 94   | 70 - 130 | 7   | 35    |  |
| m-Xylene & p-Xylene | 0.200 | 0.1870  |           | mg/Kg |   | 94   | 70 - 130 | 6   | 35    |  |
| o-Xylene            | 0.100 | 0.09367 |           | mg/Kg |   | 94   | 70 - 130 | 6   | 35    |  |

LCSD LCSD

| Surrogate                   | %Recovery Quali | fier Limits |
|-----------------------------|-----------------|-------------|
| 4-Bromofluorobenzene (Surr) | 105             | 70 - 130    |
| 1 4-Difluorobenzene (Surr)  | 112             | 70 - 130    |

Lab Sample ID: 890-4515-A-1-C MS

**Matrix: Solid** 

Analysis Batch: 51362

Client Sample ID: Matrix Spike Prep Type: Total/NA

Prep Batch: 51325

|         | Sample   | Sample    | Spike  | MS      | MS        |       |   |      | %Rec     |  |
|---------|----------|-----------|--------|---------|-----------|-------|---|------|----------|--|
| Analyte | Result   | Qualifier | Added  | Result  | Qualifier | Unit  | D | %Rec | Limits   |  |
| Benzene | <0.00200 | U         | 0.0996 | 0.09364 |           | mg/Kg | _ | 94   | 70 - 130 |  |
| Toluene | <0.00200 | U         | 0.0996 | 0.08925 |           | mg/Kg |   | 90   | 70 - 130 |  |

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## QC Sample Results

Job ID: 890-4513-1 Client: Ensolum Project/Site: PLU 387H SDG: 03C1558205

## Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-4515-A-1-C MS Client Sample ID: Matrix Spike Prep Type: Total/NA

**Matrix: Solid** 

Analysis Batch: 51362

|                     | Sample   | Sample    | Spike  | MS      | MS        |       |   |      | %Rec     |  |
|---------------------|----------|-----------|--------|---------|-----------|-------|---|------|----------|--|
| Analyte             | Result   | Qualifier | Added  | Result  | Qualifier | Unit  | D | %Rec | Limits   |  |
| Ethylbenzene        | <0.00200 | U         | 0.0996 | 0.08114 |           | mg/Kg |   | 81   | 70 - 130 |  |
| m-Xylene & p-Xylene | <0.00401 | U         | 0.199  | 0.1605  |           | mg/Kg |   | 81   | 70 - 130 |  |
| o-Xylene            | <0.00200 | U         | 0.0996 | 0.08055 |           | mg/Kg |   | 81   | 70 - 130 |  |
|                     |          |           |        |         |           |       |   |      |          |  |

MS MS

| Surrogate                   | %Recovery Qualifie | r Limits |
|-----------------------------|--------------------|----------|
| 4-Bromofluorobenzene (Surr) | 107                | 70 - 130 |
| 1,4-Difluorobenzene (Surr)  | 112                | 70 - 130 |

Lab Sample ID: 890-4515-A-1-D MSD Client Sample ID: Matrix Spike Duplicate

**Matrix: Solid** 

Analysis Batch: 51362

Prep Type: Total/NA

Prep Batch: 51325

Prep Batch: 51325

Sample Sample Spike MSD MSD RPD Result Qualifier %Rec RPD Limit Analyte babbA Result Qualifier Unit Limits Benzene <0.00200 U 0.0994 0.09458 mg/Kg 95 70 - 130 1 35 Toluene <0.00200 U 0.0994 0.09114 mg/Kg 92 70 - 130 2 35 Ethylbenzene <0.00200 U 0.0994 0.08313 84 70 - 130 2 35 mg/Kg 0.199 70 - 130 35 m-Xylene & p-Xylene <0.00401 U 0.1650 mg/Kg 83 3 0.0994 <0.00200 U 0.08268 83 70 - 130 o-Xylene mg/Kg 3

MSD MSD

| Surrogate                   | %Recovery | Qualifier | Limits   |
|-----------------------------|-----------|-----------|----------|
| 4-Bromofluorobenzene (Surr) | 109       |           | 70 - 130 |
| 1,4-Difluorobenzene (Surr)  | 107       |           | 70 - 130 |

#### Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-51297/1-A Client Sample ID: Method Blank **Matrix: Solid** Prep Type: Total/NA Prep Batch: 51297

Analysis Batch: 51269

мв мв Result Qualifier RL Unit D Prepared Analyzed Dil Fac Analyte 50.0 04/17/23 09:25 04/17/23 10:10 <50.0 U Gasoline Range Organics mg/Kg (GRO)-C6-C10 04/17/23 09:25 04/17/23 10:10 Diesel Range Organics (Over <50.0 U 50.0 mg/Kg C10-C28) OII Range Organics (Over C28-C36) <50.0 U 50.0 04/17/23 09:25 04/17/23 10:10 mg/Kg

MB MB

| Surrogate      | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|----------------|-----------|-----------|----------|----------------|----------------|---------|
| 1-Chlorooctane | 108       |           | 70 - 130 | 04/17/23 09:25 | 04/17/23 10:10 | 1       |
| o-Terphenyl    | 120       |           | 70 - 130 | 04/17/23 09:25 | 04/17/23 10:10 | 1       |

Lab Sample ID: LCS 880-51297/2-A Client Sample ID: Lab Control Sample

Analysis Batch: 51269

Diesel Range Organics (Over

**Matrix: Solid** 

Spike LCS LCS %Rec Added Analyte Result Qualifier Unit %Rec Limits 1000 107 70 - 130 Gasoline Range Organics 1066 mg/Kg (GRO)-C6-C10

1176

mg/Kg

118

70 - 130

1000

C10-C28)

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Prep Type: Total/NA

Prep Batch: 51297

Job ID: 890-4513-1 Client: Ensolum Project/Site: PLU 387H SDG: 03C1558205

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-51297/2-A Client Sample ID: Lab Control Sample

**Matrix: Solid** Prep Type: Total/NA

Analysis Batch: 51269 Prep Batch: 51297

LCS LCS Surrogate %Recovery Qualifier Limits 1-Chlorooctane 98 70 - 130 o-Terphenyl 97 70 - 130

Lab Sample ID: LCSD 880-51297/3-A Client Sample ID: Lab Control Sample Dup

**Matrix: Solid** Prep Type: Total/NA Analysis Batch: 51269 Prep Batch: 51297

Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Unit D %Rec Limits **RPD** Limit

1000 1020 102 70 - 13020 Gasoline Range Organics mg/Kg 4 (GRO)-C6-C10 Diesel Range Organics (Over 1000 1023 102 mg/Kg 70 - 13020 14 C10-C28)

LCSD LCSD Surrogate %Recovery Qualifier Limits 70 - 130 1-Chlorooctane 86

87 70 - 130 o-Terphenyl Lab Sample ID: 890-4513-1 MS **Client Sample ID: SS08** 

**Matrix: Solid** Prep Type: Total/NA

**Analysis Batch: 51269** Prep Batch: 51297 Sample Sample Spike MS MS

Analyte Result Qualifier Added Result Qualifier Unit %Rec Limits D Gasoline Range Organics <50.0 U 1000 998.5 mg/Kg 98 70 - 130 (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U 1000 1165 mg/Kg 113 70 - 130 C10-C28)

o-Terphenyl

MS MS %Recovery Qualifier Surrogate Limits 70 - 130 1-Chlorooctane 84

75

Lab Sample ID: 890-4513-1 MSD Client Sample ID: SS08

70 - 130

**Matrix: Solid** Prep Type: Total/NA Analysis Batch: 51269 Prep Batch: 51297

Sample Sample MSD MSD RPD Spike %Rec

Result Qualifier Analyte Added Result Qualifier Unit %Rec Limits RPD Limit <50.0 U 998 1010 100 Gasoline Range Organics mg/Kg 70 - 130 20 (GRO)-C6-C10 Diesel Range Organics (Over <50.0 U 998 1077 mg/Kg 105 70 - 130 20 C10-C28)

MSD MSD %Recovery Qualifier Surrogate Limits

1-Chlorooctane 76 70 - 130 70 70 - 130 o-Terphenyl

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## QC Sample Results

Job ID: 890-4513-1 Client: Ensolum Project/Site: PLU 387H SDG: 03C1558205

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-51313/1-A

**Matrix: Solid** 

Analysis Batch: 51409

MB MB

Analyte Result Qualifier RLUnit D Prepared Analyzed Dil Fac Chloride <5.00 U 5.00 mg/Kg 04/17/23 21:30

Lab Sample ID: LCS 880-51313/2-A

**Matrix: Solid** 

**Analysis Batch: 51409** 

Spike LCS LCS Added Analyte

Sample Sample

Sample Sample

783 F1

Sample

Result

8460

Result Qualifier

Sample

Qualifier

783

Result Qualifier

250

Spike

Added

250

Spike

Added

251

Spike

Added

251

Spike

Added

5040

Result 245.2

LCSD LCSD

MS MS

MSD MSD

MS MS

Qualifier

Result

13090

961.6 F1

Result Qualifier

961.0 F1

Result Qualifier

Qualifier

Result

264.8

Qualifier Unit mg/Kg

Unit

Unit

Unit

Unit

mg/Kg

mg/Kg

mg/Kg

mg/Kg

D %Rec 98

%Rec

%Rec

%Rec

%Rec

71

106

Limits

Client Sample ID: Lab Control Sample Dup

%Rec

Limits

90 - 110

%Rec

Limits

90 - 110

Client Sample ID: Matrix Spike Duplicate

%Rec

Limits

90 - 110

%Rec

Limits

90 - 110

Client Sample ID: Matrix Spike Duplicate

%Rec

Client Sample ID: Matrix Spike

Client Sample ID: Matrix Spike

90 - 110

Client Sample ID: Lab Control Sample

%Rec

Client Sample ID: Method Blank

**Prep Type: Soluble** 

**Prep Type: Soluble** 

**Prep Type: Soluble** 

RPD

**Prep Type: Soluble** 

**Prep Type: Soluble** 

RPD

**Prep Type: Soluble** 

**Prep Type: Soluble** 

Lab Sample ID: LCSD 880-51313/3-A

**Matrix: Solid** 

Chloride

Analysis Batch: 51409

Analyte

Chloride Lab Sample ID: 880-27148-A-1-C MS

**Matrix: Solid** 

Analyte

Analyte

**Analysis Batch: 51409** 

Chloride

Lab Sample ID: 880-27148-A-1-D MSD **Matrix: Solid** 

Analysis Batch: 51409

Chloride Lab Sample ID: 880-27151-A-3-C MS

**Matrix: Solid** 

**Analysis Batch: 51409** 

Analyte

Chloride

Lab Sample ID: 880-27151-A-3-D MSD **Matrix: Solid** 

**Analysis Batch: 51409** 

Sample Sample Result Qualifier Analyte Chloride 8460

Spike Added 5040

MSD MSD Result Qualifier 13410

Unit mg/Kg

D %Rec

D

Limits 98 90 - 110

RPD Limit

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RPD

Limit

RPD

Limit

RPD

20

# **QC Association Summary**

 Client: Ensolum
 Job ID: 890-4513-1

 Project/Site: PLU 387H
 SDG: 03C1558205

### **GC VOA**

## Prep Batch: 51325

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-4513-1         | SS08                   | Total/NA  | Solid  | 5035   |            |
| 890-4513-2         | SS08A                  | Total/NA  | Solid  | 5035   |            |
| 890-4513-3         | SS09                   | Total/NA  | Solid  | 5035   |            |
| 890-4513-4         | SW06                   | Total/NA  | Solid  | 5035   |            |
| 890-4513-5         | SW07                   | Total/NA  | Solid  | 5035   |            |
| MB 880-51325/5-A   | Method Blank           | Total/NA  | Solid  | 5035   |            |
| LCS 880-51325/1-A  | Lab Control Sample     | Total/NA  | Solid  | 5035   |            |
| LCSD 880-51325/2-A | Lab Control Sample Dup | Total/NA  | Solid  | 5035   |            |
| 890-4515-A-1-C MS  | Matrix Spike           | Total/NA  | Solid  | 5035   |            |
| 890-4515-A-1-D MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 5035   |            |

#### Analysis Batch: 51362

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-4513-1         | SS08                   | Total/NA  | Solid  | 8021B  | 51325      |
| 890-4513-2         | SS08A                  | Total/NA  | Solid  | 8021B  | 51325      |
| 890-4513-3         | SS09                   | Total/NA  | Solid  | 8021B  | 51325      |
| 890-4513-4         | SW06                   | Total/NA  | Solid  | 8021B  | 51325      |
| 890-4513-5         | SW07                   | Total/NA  | Solid  | 8021B  | 51325      |
| MB 880-51325/5-A   | Method Blank           | Total/NA  | Solid  | 8021B  | 51325      |
| LCS 880-51325/1-A  | Lab Control Sample     | Total/NA  | Solid  | 8021B  | 51325      |
| LCSD 880-51325/2-A | Lab Control Sample Dup | Total/NA  | Solid  | 8021B  | 51325      |
| 890-4515-A-1-C MS  | Matrix Spike           | Total/NA  | Solid  | 8021B  | 51325      |
| 890-4515-A-1-D MSD | Matrix Spike Duplicate | Total/NA  | Solid  | 8021B  | 51325      |

#### Analysis Batch: 51508

| <b>Lab Sample ID</b><br>890-4513-1 | Client Sample ID SS08 | Prep Type  Total/NA | Matrix Solid | Method Total BTEX | Prep Batch |
|------------------------------------|-----------------------|---------------------|--------------|-------------------|------------|
| 890-4513-2                         | SS08A                 | Total/NA            | Solid        | Total BTEX        |            |
| 890-4513-3                         | SS09                  | Total/NA            | Solid        | Total BTEX        |            |
| 890-4513-4                         | SW06                  | Total/NA            | Solid        | Total BTEX        |            |
| 890-4513-5                         | SW07                  | Total/NA            | Solid        | Total BTEX        |            |

#### **GC Semi VOA**

#### Analysis Batch: 51269

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 890-4513-1         | SS08                   | Total/NA  | Solid  | 8015B NM | 51297      |
| 890-4513-2         | SS08A                  | Total/NA  | Solid  | 8015B NM | 51297      |
| 890-4513-3         | SS09                   | Total/NA  | Solid  | 8015B NM | 51297      |
| 890-4513-4         | SW06                   | Total/NA  | Solid  | 8015B NM | 51297      |
| 890-4513-5         | SW07                   | Total/NA  | Solid  | 8015B NM | 51297      |
| MB 880-51297/1-A   | Method Blank           | Total/NA  | Solid  | 8015B NM | 51297      |
| LCS 880-51297/2-A  | Lab Control Sample     | Total/NA  | Solid  | 8015B NM | 51297      |
| LCSD 880-51297/3-A | Lab Control Sample Dup | Total/NA  | Solid  | 8015B NM | 51297      |
| 890-4513-1 MS      | SS08                   | Total/NA  | Solid  | 8015B NM | 51297      |
| 890-4513-1 MSD     | SS08                   | Total/NA  | Solid  | 8015B NM | 51297      |

#### Prep Batch: 51297

| 89 | Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method      | Prep Batch |
|----|---------------|------------------|-----------|--------|-------------|------------|
|    | 890-4513-1    | SS08             | Total/NA  | Solid  | 8015NM Prep |            |
|    | 890-4513-2    | SS08A            | Total/NA  | Solid  | 8015NM Prep |            |

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# **QC Association Summary**

Client: Ensolum Job ID: 890-4513-1 Project/Site: PLU 387H SDG: 03C1558205

## GC Semi VOA (Continued)

## Prep Batch: 51297 (Continued)

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method      | Prep Batch |
|--------------------|------------------------|-----------|--------|-------------|------------|
| 890-4513-3         | SS09                   | Total/NA  | Solid  | 8015NM Prep |            |
| 890-4513-4         | SW06                   | Total/NA  | Solid  | 8015NM Prep |            |
| 890-4513-5         | SW07                   | Total/NA  | Solid  | 8015NM Prep |            |
| MB 880-51297/1-A   | Method Blank           | Total/NA  | Solid  | 8015NM Prep |            |
| LCS 880-51297/2-A  | Lab Control Sample     | Total/NA  | Solid  | 8015NM Prep |            |
| LCSD 880-51297/3-A | Lab Control Sample Dup | Total/NA  | Solid  | 8015NM Prep |            |
| 890-4513-1 MS      | SS08                   | Total/NA  | Solid  | 8015NM Prep |            |
| 890-4513-1 MSD     | SS08                   | Total/NA  | Solid  | 8015NM Prep |            |

#### Analysis Batch: 51371

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method  | Prep Batch |
|---------------|------------------|-----------|--------|---------|------------|
| 890-4513-1    | SS08             | Total/NA  | Solid  | 8015 NM |            |
| 890-4513-2    | SS08A            | Total/NA  | Solid  | 8015 NM |            |
| 890-4513-3    | SS09             | Total/NA  | Solid  | 8015 NM |            |
| 890-4513-4    | SW06             | Total/NA  | Solid  | 8015 NM |            |
| 890-4513-5    | SW07             | Total/NA  | Solid  | 8015 NM |            |

### **HPLC/IC**

#### Leach Batch: 51313

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method   | Prep Batch |
|---------------------|------------------------|-----------|--------|----------|------------|
| 890-4513-1          | SS08                   | Soluble   | Solid  | DI Leach |            |
| 890-4513-2          | SS08A                  | Soluble   | Solid  | DI Leach |            |
| 890-4513-3          | SS09                   | Soluble   | Solid  | DI Leach |            |
| 890-4513-4          | SW06                   | Soluble   | Solid  | DI Leach |            |
| 890-4513-5          | SW07                   | Soluble   | Solid  | DI Leach |            |
| MB 880-51313/1-A    | Method Blank           | Soluble   | Solid  | DI Leach |            |
| LCS 880-51313/2-A   | Lab Control Sample     | Soluble   | Solid  | DI Leach |            |
| LCSD 880-51313/3-A  | Lab Control Sample Dup | Soluble   | Solid  | DI Leach |            |
| 880-27148-A-1-C MS  | Matrix Spike           | Soluble   | Solid  | DI Leach |            |
| 880-27148-A-1-D MSD | Matrix Spike Duplicate | Soluble   | Solid  | DI Leach |            |
| 880-27151-A-3-C MS  | Matrix Spike           | Soluble   | Solid  | DI Leach |            |
| 880-27151-A-3-D MSD | Matrix Spike Duplicate | Soluble   | Solid  | DI Leach |            |

#### **Analysis Batch: 51409**

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 890-4513-1          | SS08                   | Soluble   | Solid  | 300.0  | 51313      |
| 890-4513-2          | SS08A                  | Soluble   | Solid  | 300.0  | 51313      |
| 890-4513-3          | SS09                   | Soluble   | Solid  | 300.0  | 51313      |
| 890-4513-4          | SW06                   | Soluble   | Solid  | 300.0  | 51313      |
| 890-4513-5          | SW07                   | Soluble   | Solid  | 300.0  | 51313      |
| MB 880-51313/1-A    | Method Blank           | Soluble   | Solid  | 300.0  | 51313      |
| LCS 880-51313/2-A   | Lab Control Sample     | Soluble   | Solid  | 300.0  | 51313      |
| LCSD 880-51313/3-A  | Lab Control Sample Dup | Soluble   | Solid  | 300.0  | 51313      |
| 880-27148-A-1-C MS  | Matrix Spike           | Soluble   | Solid  | 300.0  | 51313      |
| 880-27148-A-1-D MSD | Matrix Spike Duplicate | Soluble   | Solid  | 300.0  | 51313      |
| 880-27151-A-3-C MS  | Matrix Spike           | Soluble   | Solid  | 300.0  | 51313      |
| 880-27151-A-3-D MSD | Matrix Spike Duplicate | Soluble   | Solid  | 300.0  | 51313      |

**Eurofins Carlsbad** 

## Lab Chronicle

Client: Ensolum Job ID: 890-4513-1 Project/Site: PLU 387H SDG: 03C1558205

**Client Sample ID: SS08** 

Date Collected: 04/13/23 09:40 Date Received: 04/13/23 14:14 Lab Sample ID: 890-4513-1

Matrix: Solid

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035        |     |        | 4.96 g  | 5 mL   | 51325  | 04/17/23 13:48 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B       |     | 1      | 5 mL    | 5 mL   | 51362  | 04/18/23 17:55 | MNR     | EET MID |
| Total/NA  | Analysis | Total BTEX  |     | 1      |         |        | 51508  | 04/19/23 12:34 | SM      | EET MID |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 51371  | 04/18/23 09:33 | SM      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.01 g | 10 mL  | 51297  | 04/17/23 09:25 | AJ      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 51269  | 04/17/23 12:47 | SM      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 4.96 g  | 50 mL  | 51313  | 04/17/23 12:15 | KS      | EET MID |
| Soluble   | Analysis | 300.0       |     | 1      | 50 mL   | 50 mL  | 51409  | 04/17/23 23:29 | SMC     | EET MID |

Client Sample ID: SS08A Lab Sample ID: 890-4513-2 Date Collected: 04/13/23 09:45 Matrix: Solid

Date Received: 04/13/23 14:14

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035        |     |        | 5.02 g  | 5 mL   | 51325  | 04/17/23 13:48 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B       |     | 1      | 5 mL    | 5 mL   | 51362  | 04/18/23 18:15 | MNR     | EET MID |
| Total/NA  | Analysis | Total BTEX  |     | 1      |         |        | 51508  | 04/19/23 12:34 | SM      | EET MID |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 51371  | 04/18/23 09:33 | SM      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.03 g | 10 mL  | 51297  | 04/17/23 09:25 | AJ      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 51269  | 04/17/23 13:54 | SM      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 4.97 g  | 50 mL  | 51313  | 04/17/23 12:15 | KS      | EET MID |
| Soluble   | Analysis | 300.0       |     | 1      | 50 mL   | 50 mL  | 51409  | 04/17/23 23:33 | SMC     | EET MID |

**Client Sample ID: SS09** Lab Sample ID: 890-4513-3

Date Collected: 04/13/23 09:50 Date Received: 04/13/23 14:14

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035        |     |        | 5.03 g  | 5 mL   | 51325  | 04/17/23 13:48 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B       |     | 1      | 5 mL    | 5 mL   | 51362  | 04/18/23 18:36 | MNR     | EET MID |
| Total/NA  | Analysis | Total BTEX  |     | 1      |         |        | 51508  | 04/19/23 12:34 | SM      | EET MID |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 51371  | 04/18/23 09:33 | SM      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.04 g | 10 mL  | 51297  | 04/17/23 09:25 | AJ      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 51269  | 04/17/23 14:17 | SM      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 5.02 g  | 50 mL  | 51313  | 04/17/23 12:15 | KS      | EET MID |
| Soluble   | Analysis | 300.0       |     | 1      | 50 mL   | 50 mL  | 51409  | 04/17/23 23:38 | SMC     | EET MID |

**Client Sample ID: SW06** Lab Sample ID: 890-4513-4

Date Collected: 04/13/23 10:30 Date Received: 04/13/23 14:14

|           | Batch    | Batch      |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре     | Method     | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035       |     |        | 5.01 g  | 5 mL   | 51325  | 04/17/23 13:48 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B      |     | 1      | 5 mL    | 5 mL   | 51362  | 04/18/23 18:56 | MNR     | EET MID |
| Total/NA  | Analysis | Total BTEX |     | 1      |         |        | 51508  | 04/19/23 12:34 | SM      | EET MID |

**Eurofins Carlsbad** 

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**Matrix: Solid** 

**Matrix: Solid** 

## **Lab Chronicle**

Client: Ensolum Job ID: 890-4513-1 Project/Site: PLU 387H SDG: 03C1558205

**Client Sample ID: SW06** 

Date Collected: 04/13/23 10:30 Date Received: 04/13/23 14:14

Lab Sample ID: 890-4513-4 Matrix: Solid

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 51371  | 04/18/23 09:33 | SM      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.04 g | 10 mL  | 51297  | 04/17/23 09:25 | AJ      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 51269  | 04/17/23 14:39 | SM      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 5.04 g  | 50 mL  | 51313  | 04/17/23 12:15 | KS      | EET MID |
| Soluble   | Analysis | 300.0       |     | 5      | 50 mL   | 50 mL  | 51409  | 04/17/23 23:42 | SMC     | EET MID |

**Client Sample ID: SW07** Lab Sample ID: 890-4513-5

Date Collected: 04/13/23 11:10 Matrix: Solid

Date Received: 04/13/23 14:14

|           | Batch    | Batch       |     | Dil    | Initial | Final  | Batch  | Prepared       |         |         |
|-----------|----------|-------------|-----|--------|---------|--------|--------|----------------|---------|---------|
| Prep Type | Туре     | Method      | Run | Factor | Amount  | Amount | Number | or Analyzed    | Analyst | Lab     |
| Total/NA  | Prep     | 5035        |     |        | 4.99 g  | 5 mL   | 51325  | 04/17/23 13:48 | MNR     | EET MID |
| Total/NA  | Analysis | 8021B       |     | 1      | 5 mL    | 5 mL   | 51362  | 04/18/23 19:37 | MNR     | EET MID |
| Total/NA  | Analysis | Total BTEX  |     | 1      |         |        | 51508  | 04/19/23 12:34 | SM      | EET MID |
| Total/NA  | Analysis | 8015 NM     |     | 1      |         |        | 51371  | 04/18/23 09:33 | SM      | EET MID |
| Total/NA  | Prep     | 8015NM Prep |     |        | 10.01 g | 10 mL  | 51297  | 04/17/23 09:25 | AJ      | EET MID |
| Total/NA  | Analysis | 8015B NM    |     | 1      | 1 uL    | 1 uL   | 51269  | 04/17/23 15:02 | SM      | EET MID |
| Soluble   | Leach    | DI Leach    |     |        | 5.05 g  | 50 mL  | 51313  | 04/17/23 12:15 | KS      | EET MID |
| Soluble   | Analysis | 300.0       |     | 5      | 50 mL   | 50 mL  | 51409  | 04/17/23 23:47 | SMC     | EET MID |

Laboratory References:

EET MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

# **Accreditation/Certification Summary**

 Client: Ensolum
 Job ID: 890-4513-1

 Project/Site: PLU 387H
 SDG: 03C1558205

#### **Laboratory: Eurofins Midland**

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority              | Pr                             | ogram                             | Identification Number                         | <b>Expiration Date</b>    |  |
|------------------------|--------------------------------|-----------------------------------|---|---------------------------|--|
| Texas                  | NI                             | ELAP                              | T104704400-22-25                              | 06-30-23                  |  |
| The following analytes | are included in this report by | it the laboratory is not certific | ed by the governing authority. This list ma   | v include analytes for y  |  |
| the agency does not of | . ,                            | at the laboratory is not contin   | ou by the governing additionty. This list the | ay include analytes for t |  |
| 0 ,                    | . ,                            | Matrix                            | Analyte                                       | ay include analytes for t |  |
| the agency does not of | fer certification.             | •                                 | , , ,   |                           |  |

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## **Method Summary**

Client: Ensolum Job ID: 890-4513-1 Project/Site: PLU 387H SDG: 03C1558205

| 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         | EPA      | 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

EPA = US Environmental Protection Agency

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

**Eurofins Carlsbad** 

## **Sample Summary**

Client: Ensolum

Project/Site: PLU 387H

Job ID: 890-4513-1

SDG: 03C1558205

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       | Depth |
|---------------|------------------|--------|----------------|----------------|-------|
| 890-4513-1    | SS08             | Solid  | 04/13/23 09:40 | 04/13/23 14:14 | 0.5   |
| 890-4513-2    | SS08A            | Solid  | 04/13/23 09:45 | 04/13/23 14:14 | 1     |
| 890-4513-3    | SS09             | Solid  | 04/13/23 09:50 | 04/13/23 14:14 | 0.5   |
| 890-4513-4    | SW06             | Solid  | 04/13/23 10:30 | 04/13/23 14:14 | 0 - 2 |
| 890-4513-5    | SW07             | Solid  | 04/13/23 11:10 | 04/13/23 14:14 | 0 - 2 |

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Revised Date: 08/25/2020 Rev. 2020.2

## **Environment Testing** Xenco

# **Chain of Custody**

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

Work Order No:

| Tacob  | 02 10000                      | CALL               |                         |               | 10-         | 3 1/1/   | اذم         | 6           | reen             |            |           |                    |          | Work O              | der Comme         | nte             |               |
|--|-------------------------------|--------------------|-------------------------|---------------|-------------|----------|-------------|-------------|------------------|------------|-----------|--------------------|----------|---------------------|-------------------|-----------------|---------------|
| Project Manager: TACON   | na Morris                     |                    | Bill to: (if differen   |               | V           | TA       | LIV         | 1-8100      | VI CLI           |            |           |                    | LICT (DC |                     |                   |                 | C Curatural   |
| Company Name: + 11010  | MILLE                         |                    | Company Name            |               | 71          | 10       | TI          | TUYL        | 10 51            |            | 1 1       | gram:<br>e of Proj |          | T PRP               | Brownfiel         | IS KK           | C Superfund   |
| Address: 3177  | National P                    |                    |                         |               | OTI         | 04       |             | 7100        | 18 St            | 0          | 1 1       |                    |          |                     | П рет/и           | - □ <b>-</b> πο | RP Level IV   |
| City, State ZIP:   |                               | 7                  | City, State ZIP:        | ~             | Ca          | 1191     | Daci,       | NW          | 88220            | )          | 1 1       |                    |          |                     |                   |                 |               |
| Phone: (970)3  | 19-4364                       | Email:             | Garrett.                | SVE           | ne          | EX       | KOUL        | nobil       | le. (on          | 1          | Del       | verables           | : ED     |                     | ADaPT 🗌           | Othe            | er:           |
| Project Name: PLU 39   | HES                           | Turn A             | round                   |               |             |          |             |             | ANALY            | SIS REQ    | UEST      |                    |          |                     |                   | Preserva        | tive Codes    |
| Project Number: 03015  | 58205                         | Routine            | Rush                    | Pres.<br>Code |             |          |             |             |                  |            |           |                    |          |                     | None              | e: NO           | DI Water: H₂O |
| Project Location: 32.1370  |                               | Due Date:          | 5days                   | -             |             |          |             |             |                  |            |           |                    |          |                     | Cool              | Cool            | MeOH: Me      |
| Sampler's Name: Maviana  | a DiDell                      | TAT starts the d   |                         | 1             |             |          |             |             |                  |            |           |                    |          |                     | HCL:              | НС              | HNO 3: HN     |
| PO #:  | U D str                       | the lab, if receiv |                         | 1             |             |          |             |             |                  | ,          |           |                    |          | u. 186              | H <sub>2</sub> S0 | 4: H 2          | NaOH: Na      |
| SAMPLE RECEIPT Temp B  | Blank: Yes No                 | Wet Ice:           | (Ye) No                 | Parameters    |             |          |             |             |                  |            |           |                    |          |                     | H <sub>3</sub> PC | ) ₄: HP         |               |
|  | No Thermomet                  |                    | maor                    | ame           | S           |          |             |             | 1111             |            |           |                    |          | NaHS                | O 4: NAB          | IS              |               |
| Cooler Custody Seals: Yes No   | (N/A Correction I             |                    | -02                     | ag .          | 5           |          |             |             |                  |            | mm        |                    |          |                     | Na <sub>2</sub> S | 203: NaSe       | O 3           |
| Sample Custody Seals: Yes No   | N/A Temperatur                | re Reading:        | 4.2                     |               | 7           |          |             |             | 89               | 0-4513     | Chain     | f Custo            | dy       |                     | Zn A              | cetate+Na       | aOH: Zn       |
| Total Containers:  | Corrected T                   | emperature:        | 4.8                     |               | 10          | X        | T           |             |                  |            |           |                    |          |                     | NaOl              | H+Ascorb        | ic Acid: SAPC |
| Sample Identification  | Matrix Date Sampled           | Time<br>Sampled    | Depth Grab/             | # of<br>Cont  | Chlorides   | BTEX     | HAL         |             |                  |            |           |                    |          |                     |                   | Sample          | Comments      |
| S08  | S 04 13/23                    | 9:40               | 0.51 G                  | 1             | 1           | 1        | 1           |             |                  |            |           |                    |          |                     | 10                | ciden           | 十丰;           |
| A8022.   |                               | 0:45               | 10'1                    | 1             |             |          |             |             |                  |            |           |                    |          |                     | NN                | IAP18           | 23448856      |
| SS09   |                               | a:50               | 0.5                     | 1             |             |          |             |             |                  |            |           |                    |          |                     |                   |                 |               |
| SWOLD  |                               | 10.30 (            | 0-2' C                  | 1             | 1.          | 7        |             |             |                  |            |           |                    |          |                     | Co.               | it CE           | inter:        |
| SWOT   | VV                            | 11:10              | ()-21 C.                | 1             | V           | V        | V           |             |                  |            |           |                    |          |                     | 1.1               | 404             | 41001         |
| 30,00  |                               |                    |                         |               |             |          |             |             |                  |            |           |                    |          |                     |                   |                 |               |
|  |                               |                    |                         |               |             |          |             |             |                  |            |           |                    |          |                     | I A               | PI:             |               |
|  |                               |                    |                         |               |             |          |             |             |                  |            |           |                    |          |                     | 30                | -015            | -41185        |
|  |                               |                    |                         |               |             |          |             |             |                  |            |           |                    |          |                     |                   |                 |               |
| _  |                               |                    |                         |               |             |          |             |             |                  |            |           |                    |          |                     |                   |                 |               |
| Total 200.7 / 6010 200.8 / 6   | 5020: 0                       | RCRA 13PPN         | A Toyas 11              | ΔI Sh         | Δc R        | a Re     | B Cd        | Ca Cr       | Co Cu Fe         | Ph M       | a Mn      | Mo Ni              | K Se     | Ag SiO <sub>2</sub> | Va Sr Tl Si       | 1 U V 7         | 'n            |
| Circle Method(s) and Metal(s) to   |                               |                    | LP 6010 : 8RC           |               |             |          |             |             |                  |            |           |                    |          |                     | 245.1 / 747       |                 |               |
|  |                               |                    |                         |               |             |          |             |             |                  |            |           |                    |          |                     |                   |                 |               |
| Notice: Signature of this document and relinquishm<br>of service. Eurofins Xenco will be liable only for the<br>of Eurofins Xenco. A minimum charge of \$85.00 wil | cost of samples and shall not | assume any respons | sibility for any losses | or expens     | ses incurre | ed by th | e client if | such losses | are due to circu | mstances b | eyond the | control            | ited.    |                     |                   |                 |               |
| Relinquished by: (Signature)   |                               | by: (Signature)    |                         |               | Date/       |          |             | 1           | quished by       |            |           |                    |          | ved by: (Sig        | nature)           |                 | Date/Time     |
| MICHON   | The and                       | ^                  |                         | 4.1           | 3.2         | 2 1      | 414         | 2           |                  | -          |           |                    |          | _                   |                   |                 |               |
| 3  | TAUX COC                      | $\mathcal{D}$      |                         |               | a. or       | ال       | 11          | 4           |                  |            |           |                    |          |                     |                   |                 |               |
|  |                               |                    |                         | 1             |             |          |             |             |                  |            |           |                    |          |                     |                   | _               |               |

## **Login Sample Receipt Checklist**

Client: Ensolum

Job Number: 890-4513-1

SDG Number: 03C1558205

Login Number: 4513 List Source: Eurofins Carlsbad

List Number: 1 Creator: Clifton, Cloe

| 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 Nu

Job Number: 890-4513-1 SDG Number: 03C1558205

Login Number: 4513 List Source: Eurofins Midland
List Number: 2 List Creation: 04/17/23 08:35 AM

Creator: Rodriguez, Leticia

| 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               | N/A    |         |

*y* 00

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<6mm (1/4").



**APPENDIX C** 

**NMOCD Notifications** 

From: <u>Green, Garrett J</u>

To: Enviro, OCD, EMNRD; Bratcher, Michael, EMNRD; Hamlet, Robert, EMNRD; Harimon, Jocelyn, EMNRD

Cc: <u>DelawareSpills /SM; Tacoma Morrissey</u>

Subject: XTO - Sampling Notification (Week of 4/10/23 - 4/14/23)

**Date:** Thursday, April 6, 2023 10:35:58 AM

### [ \*\*EXTERNAL EMAIL\*\*]

All,

XTO plans to complete final sampling activities at the sites listed below for the week of April 10, 2023.

### Wednesday

- PLU CVX JV 018H / NAB1705937661
- JRU 17 CTB/ nAPP2226628060
- BEU 156 Fire / nAPP2304448906

#### Thursday

- PLU CVX JV 018H / NAB1705937661
- JRU 17 CTB/ nAPP2226628060
- PLU 387H / NMAP1823448856

### Friday

- PLU 387H / NMAP1823448856

Thank you,

#### **Garrett Green**

Environmental Coordinator
Delaware Business Unit
(575) 200-0729
<a href="mailto:Garrett.Green@ExxonMobil.com">Garrett.Green@ExxonMobil.com</a>

XTO Energy, Inc.

3104 E. Greene Street | Carlsbad, NM 88220 | M: (575)200-0729



APPENDIX C REMEDIATION WORK PLAN; SEPTMBER 27, 2023



September 27, 2023

New Mexico Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505

Re: Remediation Work Plan
Poker Lake Unit 387 Battery
Incident Number NMAP1823448856
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared the following *Remediation Work Plan* (*Work Plan*) as a follow up to the *Closure Request* dated June 15, 2023. This *Work Plan* proposes to complete additional depth to groundwater determination activities at the Poker Lake Unit 387 Battery (Site) in response to the New Mexico Oil Conservation Division (NMOCD) denial of the June 15, 2023, *Closure Request*. In the denial, NMOCD expressed concern that depth to groundwater was not adequately determined. The following *Work Plan* proposes to install a soil boring within 0.5 miles of the Site to investigate depth to groundwater and confirm the Closure Criteria at the Site.

#### SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit D, Section 13, Township 25 South, Range 30 East, in Eddy County, New Mexico (32.137664°, -103.841930°) and is associated with oil and gas exploration and production operations on Federal land managed by the Bureau of Land Management (BLM).

On August 9, 2018, corrosion in the saltwater disposal (SWD) riser caused the release of 631 barrels (bbls) of produced water onto the adjacent pasture and lease road. The area around the riser had been previously excavated for upgrades. The majority of the released fluid was contained within the open excavation; however, some of the fluid flowed east along the lease road. Vacuum trucks were dispatched to the Site and recovered 540 bbls of produced water from the open excavation and 60 bbls from the ground surface. XTO reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 on August 22, 2018. The release was assigned Remediation Permit Number (RP) Number 2RP-4946 and Incident Number NMAP1823448856.

The release is included in the Compliance Agreement for Remediation for Historical Releases (Compliance Agreement) between XTO and the NMOCD effective November 13, 2018. The purpose of the Compliance Agreement is to ensure that reportable releases that occurred prior to or near August 14, 2018, where XTO is responsible for the corrective action, comply with Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC) as amended on August 14, 2018.

XTO Energy, Inc Remediation Work Plan Poker Lake Unit 387 Battery

#### **BACKGROUND**

The *Closure Request* detailed site characterization according to Table 1, Closure Criteria for Soils Impacted by a Release, of 19.15.29 of the NMAC. Results from the site characterization are presented on page 3 of the Form C-141, Site Assessment/Characterization.

Based on the results of the Site Characterization, the following NMOCD Table I Closure Criteria (Closure Criteria) were applied:

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

A reclamation requirement of 600 mg/kg chloride was applied to the top 4 feet of the pasture areas that were impacted by the release, per 19.15.29.13.D (1) NMAC for the top 4 feet of areas that will be reclaimed following remediation.

During October and November 2018, delineation and excavation activities were conducted at the Site to address the impacted soil resulting from the August 9, 2018, produced water release. Impacted soil was excavated to the extent possible; however, an estimated 90 cubic yards of impacted soil were left in place for compliance with XTO safety policy regarding earth-moving activities within two feet of active production equipment and pipelines. This policy was enforced where impacted soil was identified within two feet of the active SWD riser and pipelines. The impacted soil left in-place was laterally and vertically delineated to below the Site Closure Criteria. Additional details regarding the delineation and excavation activities can be referenced in the *Deferral Request*, submitted to NMOCD on April 11, 2019.

On March 16, 2023, NMOCD denied the *Deferral Request* for Incident Number NMAP1823448856 for the following reasons:

- Deferral request denied. Per 19.15.29.12 C. (3) The responsible party shall remediate the impacted surface area of a release not occurring on a lined, bermed or otherwise contained exploration, development, production or storage site to meet the standards of Table I of 19.15.29.12 NMAC or other applicable remediation standards and restore and reclaim the area pursuant to 19.15.29.13 NMAC.
- Samples SW03, SW05, SS01, and SS05 returned results above the reclamation standards of 600 mg/kg for chloride and/or 100 mg/kg for TPH.

In April 2023 additional soil sampling activites were conducted at the Site to confirm the presence or absence of waste containing soil in the top four feet. Closure was requested on June 15, 2023, based on laboratory analytical results for the confirmation and delineation soil samples indicating benzene, BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the reclamation requirement. Additional details regarding the delineation and excavation activities can be referenced in the June 15, 2023, *Closure Request*.

On June 26, 2023, NMOCD denied the *Closure Request* for Incident Number NMAP1823448856 for following reasons:

Closure denied. Inadequate depth to groundwater data.



XTO Energy, Inc Remediation Work Plan Poker Lake Unit 387 Battery

- A deferral cannot be granted on a release if the depth to water is <50' depth to groundwater. At that point, a hydrovac/shovel would need to be used to safely remove the contaminated soil around equipment and pipelines. The release will need to be remediated to the strictest closure criteria limits (600 mg/kg, Chlorides, 100 mg/kg TPH, etc.). If you feel the depth to groundwater is >50', a shallow borehole can be drilled to 51' allowing for verification of the depth. If water is not visible after reaching bottom-hole and waiting 72 hours, the OCD will accept this as evidence. A driller's log must be provided in the report to the OCD.
- Samples FS01-FS05 and BH03 exceed closure criteria for depth to groundwater <50 feet.</li>
- Submit a report via the OCD permitting portal by September 29, 2023.

Based on the lack of any verbiage regarding the Closure Criteria NMOCD's denial of the April 19, 2019 *Deferral Request*, it appeared the Closure Criteria had been accepted. The *Deferral Request* was denied due to several soil samples not meeting the reclamation requirement, not that the strictest Table I Closure Criteria needed to be applied to the entire Site. However, to ensure closure of the release and no further action required for Incident Number NMAP1823448856, XTO will address Closure Criteria by advancing a soil boring to confirm depth to groundwater is greater than 100 feet bgs at the Site.

#### PROPOSED REMEDIATION WORKPLAN

In order to confirm depth to groundwater is greater than 100 feet bgs at the Site, XTO proposes to advance a soil boring to a depth of 105 feet bgs within 0.5 miles of the Site. A field geologist will log and describe soils continuously. The soil boring will be left open for over 72 hours to allow for equilibration of groundwater levels within the temporary boring casing. After the 72-hour waiting period, depth to groundwater will be assessed and the soil boring will be backfilled following New Mexico Office of the State Engineer (NMOSE) approved procedures. A well record or soil boring log will be included in the follow up Closure Report.

XTO will complete the soil boring within 90 days of the date of approval of this *Work Plan* by the NMOCD and submit a *Closure Request Addendum* within 30 days of completing the soil boring. XTO believes this *Work Plan* is protective of human health, the environment, and groundwater and respectfully requests approval of this *Work Plan* for Incident Number NMAP1823448856.

If you have any questions or comments, please contact Ms. Tacoma Morrissey at (337) 257-8307 or tmorrissey@ensolum.com.

ashley L. ager

Ashley Ager, P.G.

**Program Director** 

Sincerely, **Ensolum, LLC** 

Aimee Cole

Mouissey

Senior Managing Geologist

cc: Garrett Green, XTO Tommee Lambert, XTO

Bureau of Land Management

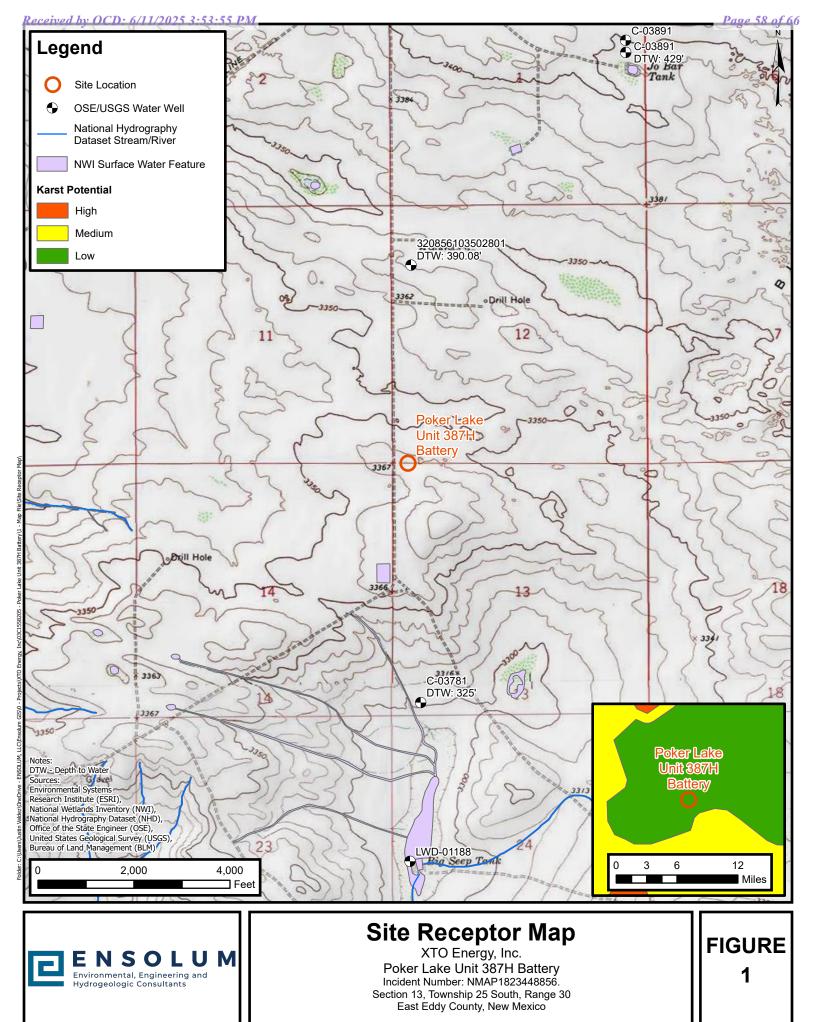
Appendices:

Figure 1 Site Receptor Map





**FIGURES** 



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

QUESTIONS

Action 473424

#### **QUESTIONS**

| Operator:              | OGRID:  |
|------------------------|---|
| XTO ENERGY, INC        | 5380  |
| 6401 Holiday Hill Road | Action Number:  |
| Midland, TX 79707      | 473424  |
|                        | Action Type:  |
|                        | [C-141] Remediation Closure Request C-141 (C-141-v-Closure) |

#### QUESTIONS

| Prerequisites    |   |
|------------------|---|
| Incident ID (n#) | nMAP1823448856                                      |
| Incident Name    | NMAP1823448856 POKER LAKE UNIT #387H @ 30-015-41185 |
| Incident Type    | Produced Water Release                              |
| Incident Status  | Remediation Closure Report Received                 |
| Incident Well    | [30-015-41185] POKER LAKE UNIT #387H                |

| Location of Release Source                     |                       |
|--|-----------------------|
| Please answer all the questions in this group. |                       |
| Site Name                                      | POKER LAKE UNIT #387H |
| Date Release Discovered                        | 08/09/2018            |
| Surface Owner                                  | Federal               |

| Incident Details   |                        |
|--|------------------------|
| Please answer all the questions in this group.   |                        |
| Incident Type  | Produced Water Release |
| Did this release result in a fire or is the result of a fire   | No                     |
| Did this release result in any injuries  | No                     |
| Has this release reached or does it have a reasonable probability of reaching a watercourse          | No                     |
| Has this release endangered or does it have a reasonable probability of endangering public health    | No                     |
| Has this release substantially damaged or will it substantially damage property or the environment   | No                     |
| Is this release of a volume that is or may with reasonable probability be detrimental to fresh water | No                     |

| Nature and Volume of Release   |   |  |
|--|---|--|
| Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission. |   |  |
| Crude Oil Released (bbls) Details  | Not answered.   |  |
| Produced Water Released (bbls) Details   | Cause: Corrosion   Injection Header   Produced Water   Released: 631 BBL   Recovered: 600 BBL   Lost: 31 BBL. |  |
| Is the concentration of chloride in the produced water >10,000 mg/l  | Yes   |  |
| Condensate Released (bbls) Details   | Not answered.   |  |
| Natural Gas Vented (Mcf) Details   | Not answered.   |  |
| Natural Gas Flared (Mcf) Details   | Not answered.   |  |
| Other Released Details   | Not answered.   |  |
| Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)                                 | Not answered.   |  |

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

QUESTIONS, Page 2

Action 473424

| QUESTI  | ONS (continued)  |
|---|--|
| Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707  | OGRID:   |
| QUESTIONS   |  |
| Nature and Volume of Release (continued)  |  |
| Is this a gas only submission (i.e. only significant Mcf values reported)   | No, according to supplied volumes this does not appear to be a "gas only" report.  |
| Was this a major release as defined by Subsection A of 19.15.29.7 NMAC  | Yes  |
| Reasons why this would be considered a submission for a notification of a major release   | From paragraph A. "Major release" determine using: (1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.  |
| With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e.  | e. gas only) are to be submitted on the C-129 form.  |
| Initial Response  |  |
| The responsible party must undertake the following actions immediately unless they could create a s  The source of the release has been stopped   | T ·  |
| The impacted area has been secured to protect human health and the environment  | True True  |
| Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices  | True   |
| All free liquids and recoverable materials have been removed and managed appropriately  | True   |
| If all the actions described above have not been undertaken, explain why  | Not answered.  |
|   | ation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative ted or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of valuation in the follow-up C-141 submission.  |
| to report and/or file certain release notifications and perform corrective actions for releathe OCD does not relieve the operator of liability should their operations have failed to a | knowledge and understand that pursuant to OCD rules and regulations all operators are required ases which may endanger public health or the environment. The acceptance of a C-141 report by adequately investigate and remediate contamination that pose a threat to groundwater, surface to does not relieve the operator of responsibility for compliance with any other federal, state, or |
| I hereby agree and sign off to the above statement  | Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 06/11/2025  |

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

QUESTIONS, Page 3

Action 473424

#### **QUESTIONS** (continued)

| Operator:              | OGRID:  |
|------------------------|---|
| XTO ENERGY, INC        | 5380  |
| 6401 Holiday Hill Road | Action Number:  |
| Midland, TX 79707      | 473424  |
|                        | Action Type:  |
|                        | [C-141] Remediation Closure Request C-141 (C-141-v-Closure) |

#### QUESTIONS

| Site Characterization   |   |  |
|---|---|--|
| Please answer all the questions in this group (only required when seeking remediation plan approva<br>release discovery date. | l and beyond). This information must be provided to the appropriate district office no later than 90 days after the |  |
| What is the shallowest depth to groundwater beneath the area affected by the release in feet below ground surface (ft bgs)    | Between 100 and 500 (ft.)   |  |
| What method was used to determine the depth to ground water   | Direct Measurement  |  |
| Did this release impact groundwater or surface water  | No  |  |
| What is the minimum distance, between the closest lateral extents of the release and the following surface areas:             |   |  |
| A continuously flowing watercourse or any other significant watercourse   | Between 1 and 5 (mi.)   |  |
| Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)   | Greater than 5 (mi.)  |  |
| An occupied permanent residence, school, hospital, institution, or church   | Between 1 and 5 (mi.)   |  |
| A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes     | Between 1 and 5 (mi.)   |  |
| Any other fresh water well or spring  | Between ½ and 1 (mi.)   |  |
| Incorporated municipal boundaries or a defined municipal fresh water well field   | Greater than 5 (mi.)  |  |
| A wetland   | Between ½ and 1 (mi.)   |  |
| A subsurface mine   | Greater than 5 (mi.)  |  |
| An (non-karst) unstable area  | Greater than 5 (mi.)  |  |
| Categorize the risk of this well / site being in a karst geology  | Low   |  |
| A 100-year floodplain   | Between ½ and 1 (mi.)   |  |
| Did the release impact areas not on an exploration, development, production, or storage site                                  | Yes   |  |

| Remediation Plan  |   |  |
|---|---|--|
| Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.   |   |  |
| Requesting a remediation plan approval with this submission   | Yes   |  |
| Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination  | on associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC. |  |
| Have the lateral and vertical extents of contamination been fully delineated  | Yes   |  |
| Was this release entirely contained within a lined containment area   | No  |  |
| Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)  |   |  |
| Chloride (EPA 300.0 or SM4500 Cl B)   | 7820  |  |
| TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)   | 166   |  |
| GRO+DRO (EPA SW-846 Method 8015M)   | 145   |  |
| BTEX (EPA SW-846 Method 8021B or 8260B)   | 0.1   |  |
| Benzene (EPA SW-846 Method 8021B or 8260B)  | 0   |  |
| Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation. |   |  |
| On what estimated date will the remediation commence  | 09/28/2018  |  |
| On what date will (or did) the final sampling or liner inspection occur   | 04/13/2023  |  |
| On what date will (or was) the remediation complete(d)  | 04/13/2023  |  |
| What is the estimated surface area (in square feet) that will be reclaimed  | 13300   |  |
| What is the estimated volume (in cubic yards) that will be reclaimed  | 148   |  |
| What is the estimated surface area (in square feet) that will be remediated   | 13300   |  |
| What is the estimated volume (in cubic yards) that will be remediated   | 148   |  |
| These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.   |   |  |

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to

significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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

QUESTIONS, Page 4

Action 473424

**QUESTIONS** (continued)

| Operator:              | OGRID:  |
|------------------------|---|
| XTO ENERGY, INC        | 5380  |
| 6401 Holiday Hill Road | Action Number:  |
| Midland, TX 79707      | 473424  |
|                        | Action Type:  |
|                        | [C-141] Remediation Closure Request C-141 (C-141-v-Closure) |

#### QUESTIONS

| Remediation Plan (continued)  |                                     |
|---|-------------------------------------|
| Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.                           |                                     |
| This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:   |                                     |
| (Select all answers below that apply.)  |                                     |
| (Ex Situ) Excavation and off-site disposal (i.e. dig and haul, hydrovac, etc.)  | Yes                                 |
| Which OCD approved facility will be used for off-site disposal  | Not answered.                       |
| OR which OCD approved well (API) will be used for off-site disposal   | Not answered.                       |
| OR is the off-site disposal site, to be used, out-of-state  | Yes                                 |
| In which state is the disposal taking place   | Texas                               |
| What is the name of the out-of-state facility   | R360-Red Bluff Facility in Orla, TX |
| OR is the off-site disposal site, to be used, an NMED facility  | Not answered.                       |
| (Ex Situ) Excavation and on-site remediation (i.e. On-Site Land Farms)  | Not answered.                       |
| (In Situ) Soil Vapor Extraction   | Not answered.                       |
| (In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)   | Not answered.                       |
| (In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)  | Not answered.                       |
| (In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)  | Not answered.                       |
| Ground Water Abatement pursuant to 19.15.30 NMAC  | Not answered.                       |
| OTHER (Non-listed remedial process)   | Not answered.                       |
| Per Subsection Plot 10 15 90 11 NMAC unless the site observatorization report includes completed effects at compeliation, the consert must include a proposed compeliation plan in accordance with 10 15 90 12 NMAC |                                     |

Per Subsection B of 19.15.29.11 NMAC unless the site characterization report includes completed efforts at remediation, the report must include a proposed remediation plan in accordance with 19.15.29.12 NMAC, which includes the anticipated timelines for beginning and completing the remediation.

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.

Name: Colton Brown
Title: Environmental Advisor
Email: colton.s.brown@exxonmobil.com
Date: 06/11/2025

The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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

QUESTIONS, Page 5

Action 473424

**QUESTIONS** (continued)

| Operator:              | OGRID:  |
|------------------------|---|
| XTO ENERGY, INC        | 5380  |
| 6401 Holiday Hill Road | Action Number:  |
| Midland, TX 79707      | 473424  |
|                        | Action Type:  |
|                        | [C-141] Remediation Closure Request C-141 (C-141-v-Closure) |

#### QUESTIONS

| Deferral Requests Only   |    |
|--|----|
| Only answer the questions in this group if seeking a deferral upon approval this submission. Each of the following items must be confirmed as part of any request for deferral of remediation. |    |
| Requesting a deferral of the remediation closure due date with the approval of this submission   | No |

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

QUESTIONS, Page 6

Action 473424

**QUESTIONS** (continued)

| Operator:              | OGRID:  |
|------------------------|---|
| XTO ENERGY, INC        | 5380  |
| 6401 Holiday Hill Road | Action Number:  |
| Midland, TX 79707      | 473424  |
|                        | Action Type:  |
|                        | [C-141] Remediation Closure Request C-141 (C-141-v-Closure) |

#### QUESTIONS

| Sampling Event Information  |            |
|---|------------|
| Last sampling notification (C-141N) recorded  | 473440     |
| Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC | 04/13/2023 |
| What was the (estimated) number of samples that were to be gathered                             | 5          |
| What was the sampling surface area in square feet   | 1000       |

| Remediation Closure Request  |   |  |  |
|--|---|--|--|
| Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.   |   |  |  |
| Requesting a remediation closure approval with this submission   | Yes   |  |  |
| Have the lateral and vertical extents of contamination been fully delineated   | Yes   |  |  |
| Was this release entirely contained within a lined containment area  | No  |  |  |
| All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion   | Yes   |  |  |
| What was the total surface area (in square feet) remediated  | 13300   |  |  |
| What was the total volume (cubic yards) remediated   | 148   |  |  |
| All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene | Yes   |  |  |
| What was the total surface area (in square feet) reclaimed   | 13300   |  |  |
| What was the total volume (in cubic yards) reclaimed   | 148   |  |  |
| Summarize any additional remediation activities not included by answers (above)  | A soil boring installed within 0.43 miles of the Site confirmed depth to groundwater greater than 105 feet bgs; therefore, the Site-specific Closure Criteria presented in the original Closure Request was correctly applied. Impacted soil identified has been removed. The area will be reseeded with BLM approved seed mixture. |  |  |

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

| I hereby agree and sign off to the above statement | Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 06/11/2025 |
|--|---|
|--|---|

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

QUESTIONS, Page 7

Action 473424

QUESTIONS (continued)

| Operator:              | OGRID:  |
|------------------------|---|
| XTO ENERGY, INC        | 5380  |
| 6401 Holiday Hill Road | Action Number:  |
| Midland, TX 79707      | 473424  |
|                        | Action Type:  |
|                        | [C-141] Remediation Closure Request C-141 (C-141-v-Closure) |

#### QUESTIONS

| Reclamation Report  |    |
|---|----|
| Only answer the questions in this group if all reclamation steps have been completed. |    |
| Requesting a reclamation approval with this submission                                | No |

General Information Phone: (505) 629-6116

Online Phone Directory https://www.emnrd.nm.gov/ocd/contact-us

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

CONDITIONS

Action 473424

#### **CONDITIONS**

| Operator:              | OGRID:  |
|------------------------|---|
| XTO ENERGY, INC        | 5380  |
| 6401 Holiday Hill Road | Action Number:  |
| Midland, TX 79707      | 473424  |
|                        | Action Type:  |
|                        | [C-141] Remediation Closure Request C-141 (C-141-v-Closure) |

#### CONDITIONS

| Created<br>By | Condition | Condition<br>Date |
|---------------|-----------|-------------------|
| nvelez        | None      | 7/23/2025         |