

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

State of New Mexico
Energy Minerals and Natural Resources

MAY 17 2018

Form C-141
Revised April 3, 2017

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

NAB1814128371

OPERATOR

☒ Initial Report ☐ Final Report

| | |
|---|---|
| Name of Company: XTO Energy | Contact: Amy C. Ruth |
| Address: 3104 E. Greene St., Carlsbad, N.M. 88220 | Telephone No: 575-689-3380 |
| Facility Name: Big Eddy Unit #149 Battery | Facility Type: Exploration and Production |
| Surface Owner: State of NM | Mineral Owner: Unknown |
| API No: 30-015-33972 | |

LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|-------------|---------|----------|-------|---------------|------------------|---------------|----------------|--------|
| H | 32 | 21S | 28E | 2120 | North | 535 | East | |

Latitude 32.438122° Longitude -104.10199° NAD83

NATURE OF RELEASE

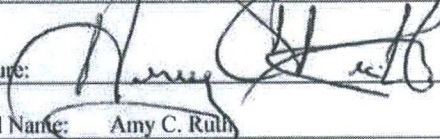
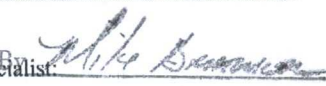
| | | | | | |
|-----------------------------|---|---|-----------------------|----------------------------|---------------|
| Type of Release | Crude Oil | Volume of Release | 20 bbls | Volume Recovered | 3 bbls |
| Source of Release | Tank | Date and Hour of Occurrence | 5/2/2018 time unknown | Date and Hour of Discovery | 5/2/2018 9 am |
| Was Immediate Notice Given? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required | If YES, To Whom? | N/A | | |
| By Whom? | N/A | Date and Hour: | N/A | | |
| Was a Watercourse Reached? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If YES, Volume Impacting the Watercourse. | N/A | | |

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*
Lease operator discovered a pinhole near the bottom of oil tank. Fluid was transferred to adjacent tank until repair can be made.

Describe Area Affected and Cleanup Action Taken.*
The release affected the earthen secondary containment surrounding the tank battery. Free standing fluids were recovered. An environmental contractor was retained to assist with delineation and remediation efforts.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

| | | |
|--|---|--|
| Signature:  | OIL CONSERVATION DIVISION | |
| Printed Name: Amy C. Ruth | Approved by Environmental Specialist:  | |
| Title: Environmental Coordinator | Approval Date: 5/17/18 | Expiration Date: N/A |
| E-mail Address: Amy.Ruth@xtoenergy.com | Conditions of Approval: See attached | Attached <input type="checkbox"/> ARP-4755 |
| Date: 5/17/2018 | Phone: 575-689-3380 | |

* Attach Additional Sheets If Necessary

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State of New Mexico
Energy Minerals and Natural
Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

| | |
|----------------|---------------|
| Incident ID | NAB1814128371 |
| District RP | 2RP-4755 |
| Facility ID | |
| Application ID | |

Release Notification

Responsible Party

| | |
|--|---------------------------------|
| Responsible Party: XTO Energy, Inc | OGRID |
| Contact Name: Kyle Littrell | Contact Telephone: 432-221-7331 |
| Contact email: Kyle_Littrell@xtoenergy.com | Incident # 2RP-4755 |
| Contact mailing address: 522 W. Mermod, Suite 704 Carlsbad, NM 88220 | |

Location of Release Source

Latitude 32.438122° Longitude -104.10199°
(NAD 83 in decimal degrees to 5 decimal places)

| | |
|---------------------------------------|---------------------------------------|
| Site Name: Big Eddy Unit #149 Battery | Site Type: Exploration and Production |
| Date Release Discovered: 5/2/2018 | API#: 30-015-33972 |

| Unit Letter | Section | Township | Range | County |
|-------------|---------|----------|-------|--------|
| H | 32 | 21S | 28E | Eddy |

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (Name: _____)

Nature and Volume of Release

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

| | | |
|---|--|--|
| <input checked="" type="checkbox"/> Crude Oil | Volume Released (bbls): 20 bbls | Volume Recovered (bbls): 3 bbls |
| <input type="checkbox"/> Produced Water | Volume Released (bbls): | Volume Recovered (bbls): |
| | Is the concentration of dissolved chloride in the produced water >10,000 mg/l? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| <input type="checkbox"/> Condensate | Volume Released (bbls) | Volume Recovered (bbls) |
| <input type="checkbox"/> Natural Gas | Volume Released (Mcf) | Volume Recovered (Mcf) |
| <input type="checkbox"/> Other (describe) | Volume/Weight Released (provide units) | Volume/Weight Recovered (provide units) |

Cause of Release:


Lease operator discovered a pinhole near the bottom of an oil tank. Fluid was transferred to adjacent tank until repairs can be made.

| | |
|----------------|----------|
| Incident ID | 2RP-4755 |
| District RP | |
| Facility ID | |
| Application ID | |

| | |
|--|--|
| Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input type="checkbox"/> No | If YES, for what reason(s) does the responsible party consider this a major release? |
| If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? | |

Initial Response

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

| | |
|--|------------------------------------|
| <input checked="" type="checkbox"/> The source of the release has been stopped. | |
| <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. | |
| <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. | |
| <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately. | |
| If all the actions described above have <u>not</u> been undertaken, explain why: | |
| Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation. | |
| I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. | |
| Printed Name: <u>Kyle Littrell</u> | Title: <u>SH&E Coordinator</u> |
| Signature:  | Date: <u>10/22/2018</u> |
| email: <u>Kyle_Littrell@xtoenergy.com</u> | Telephone: <u>432-221-7331</u> |
| <u>OCD Only</u> | |
| Received by: _____ | Date: _____ |

| | |
|----------------|---------------|
| Incident ID | NAB1814128371 |
| District RP | |
| Facility ID | |
| Application ID | |

Site Assessment/Characterization

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

| | |
|---|---|
| What is the shallowest depth to groundwater beneath the area affected by the release? | <u>< 50</u> (ft bgs) |
| Did this release impact groundwater or surface water? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 1000 feet of any other fresh water well or spring? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within 300 feet of a wetland? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release overlying a subsurface mine? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release overlying an unstable area such as karst geology? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Are the lateral extents of the release within a 100-year floodplain? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Did the release impact areas not on an exploration, development, production, or storage site? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |

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

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

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

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

State of New Mexico
Oil Conservation Division

Page 4

| | |
|----------------|---------------|
| Incident ID | NAB1814128371 |
| District RP | |
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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Garrett GreenTitle: SSHE CoordinatorSignature: Date: 07/17/2023email: garrett.green@exxonmobil.comTelephone: 575-200-0729**OCD Only**Received by: Shelly WellsDate: 7/20/2023

| | |
|----------------|---------------|
| Incident ID | NAB1814128371 |
| District RP | |
| Facility ID | |
| Application ID | |

Closure

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 (electronic submittals in .pdf format are preferred) 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.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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.

Printed Name: Garrett Green

Title: Environmental Coordinator

Signature: 

Date: 07/17/2023

email: garrett.green@exxonmobil.com

Telephone: 575-200-0729

OCD Only

Received by: Shelly Wells

Date: 7/20/2023

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: 

Date: 7/21/2023

Printed Name: Brittany Hall

Title: Environmental Specialist



July 17, 2023

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

**Re: Closure Request
Big Eddy Unit #149 Battery
Incident Number NAB1814128371
Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared the following *Closure Request* as a follow-up to a deferral request dated October 22, 2018. This *Closure Request* provides an update to the excavation and soil sampling activities completed at the Big Eddy Unit #149 Battery (Site) following final plugging and abandonment of the well and removal of the surface production equipment. Based on the additional remediation activities described below, XTO is submitting this *Closure Request* and requesting no further action and closure for Incident Number NAB1814128371.

SITE DESCRIPTION AND RELEASE SUMMARY

The Site is located in Unit H, Section 32, Township 21 South, Range 28 East, in Eddy County, New Mexico (32.438122°, -104.10199°) and is associated with oil and gas exploration and production operations on state land managed by the State Land Office (SLO).

On May 2, 2018, a pinhole leak was discovered near the bottom of an oil tank, which resulted in the release of approximately 20 barrels (bbls) of crude oil into the earthen tank battery containment berm. The remaining crude oil in the leaking tank was transferred to an adjacent tank and approximately 3 bbls of free-standing fluid from the earthen berm. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 (Form C-141) on May 17, 2018. The release was assigned Remediation Permit (RP) Number 2RP-4755 and Incident Number NAB1814128371.

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 August 14, 2018, where XTO is responsible for the corrective action, comply with 19.15.29 of the New Mexico Administrative Code (NMAC) as amended on August 14, 2018.

BACKGROUND

The original report detailed site characterization according to Table I, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29 (19.15.29) of the NMAC. Results from the site characterization are presented on page 3 of the Form C-141, Site Assessment/Characterization. Potential site receptors are identified on Figure 1.

XTO Energy, Inc.
Closure Request
BEU #169

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): 100 mg/kg
- Chloride: 600 mg/kg

Between June 2018 and August 2018, assessment and excavation activities were conducted at the Site to address the impacted soil resulting from the May 2, 2018, crude oil release. Impacted soil was excavated to the maximum extent possible; however, an estimated 70 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. This policy was enforced where impacted soil was identified within two feet of the tanks within the earthen berm containment. Additional details regarding the excavation and soil sampling activities can be referenced in the original report, submitted to NMOCD and dated October 22, 2018.

On March 8, 2023, NMOCD denied the report for Incident Number NAB1814128371 for the following reason:

- *SS01A and SS02A above the [remediation] and reclamation standards for TPH. The report states "XTO requests no further action for release number 2RP-4755 until final reclamation or site reconfiguration, at which time the impacted soil left in place around the storage tanks will be addressed." Per OCD records this site has been plugged.*

Upon inspection of the Site, it was confirmed that the well was plugged and abandoned and all surface production equipment had been removed from the Site. Based on removal of the storage tanks and access to the original deferral area, final remediation of the Site was scheduled.

EXCAVATION ACTIVITIES AND LABORATORY ANALYTICAL RESULTS

Between March 17, 2023 and March 30, 2023, Ensolum personnel were at the Site to oversee excavation activities to remove the impacted soil remaining in-place in the former storage tank containment area, as indicated by original excavation samples SS1, SS01A, SS2, SS02A. The deferral area and original excavation soil sample locations are depicted on Figure 2. Excavation activities were performed using a backhoe and transport vehicles. To direct excavation activities, soil was screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The excavation was completed to depths ranging from 6.5 feet to 7 feet bgs. Photographic documentation of the excavation activities is included in Appendix A.

Following removal of the impacted soil, 5-point composite soil samples were collected every 200 square feet from the floor and sidewalls of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples FS01 and FS02 were collected from the floor of the excavation at depths ranging from 6.5 feet to 7 feet bgs. Composite soil samples SW01 and SW02 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 7 feet bgs. The excavation extent and excavation soil sample locations are presented on Figure 2.

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,

XTO Energy, Inc.
Closure Request
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for analysis of the following chemicals of concern (COC): BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results for excavation floor samples FS01 and FS02 collected at 6 feet bgs and sidewall samples SW01 and SW02 collected from ground surface to 6 feet bgs indicated that TPH concentrations exceeded the Site Closure Criteria; additional soil was removed and subsequent confirmation soil samples collected between 6.5 feet bgs and 7 feet bgs were compliant with the Closure Criteria. Laboratory analytical results collected from the final excavation extent were compliant with the Site Closure Criteria. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included as Appendix B. The original report can be referenced in Appendix C. Notifications of sampling events are included in Appendix D.

The excavation area measured approximately 370 square feet. A total of 95 cubic yards of impacted soil were removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Facility in Hobbs, New Mexico.

CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the deferral area from the May 2, 2018, crude oil release within the former earthen berm containment. Laboratory analytical results for the excavation soil samples, collected from the final excavation extent, indicated all COCs were compliant with the Site Closure Criteria and reclamation requirements. Based on the soil sample analytical results, no further remediation was required.

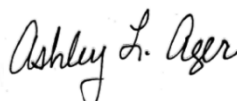
Initial response efforts, natural attenuation, and excavation of impacted soil have mitigated impacts at this Site. XTO believes the remedial actions completed are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number NAB1814128371. A reclamation plan for the remediated area is included in Appendix E. The final reclamation plan for the pad has been submitted and is pending SLO approval.

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

Sincerely,
Ensolum, LLC



Tacoma Morrissey
Senior Geologist



Ashley Ager, M.S., P.G.
Principal

cc: Garrett Green, XTO
Shelby Pennington, XTO
SLO

Appendices:

Figure 1 Site Receptor Map
Figure 2 Deferral Area Map

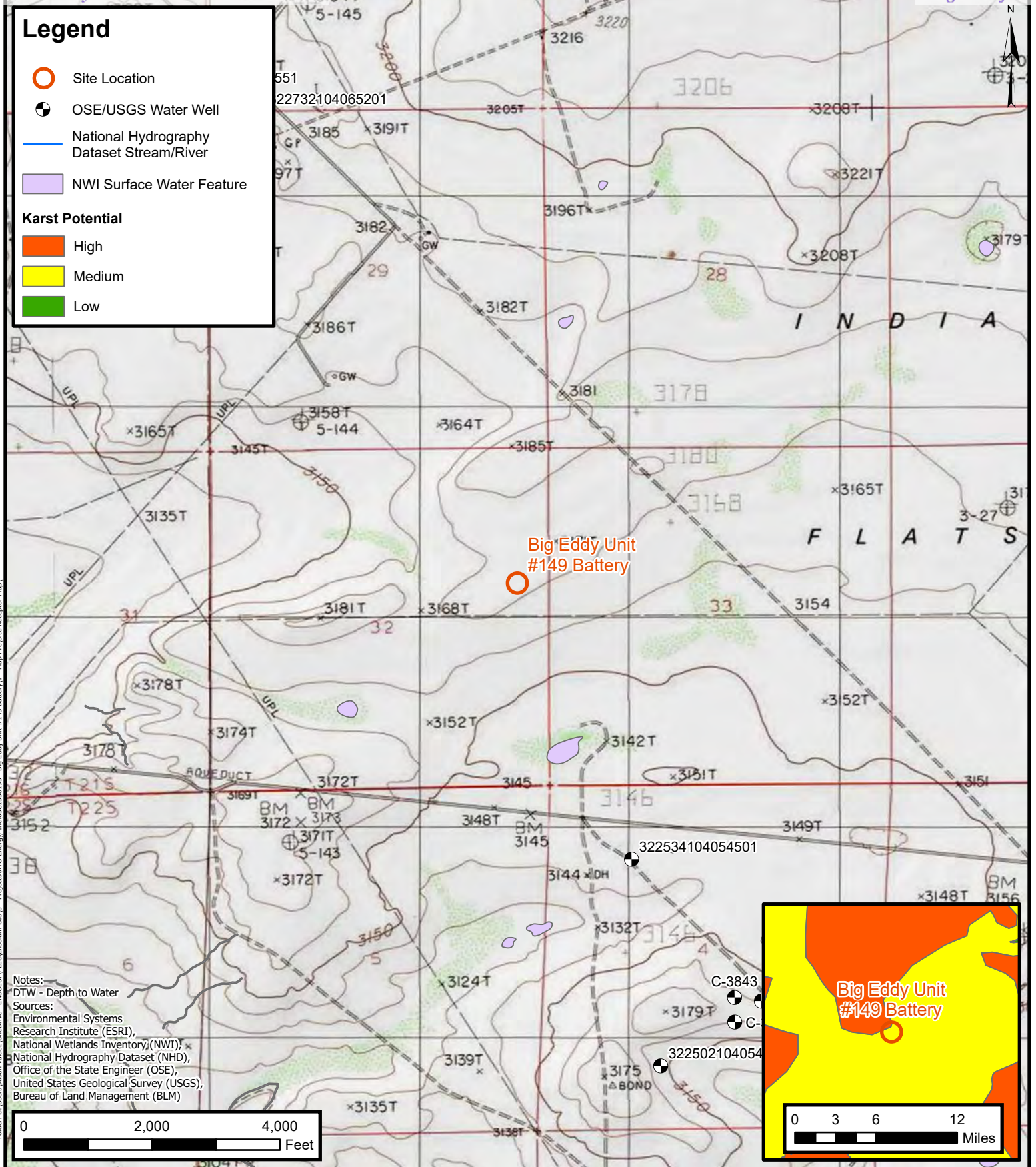


XTO Energy, Inc.
Closure Request
BEU #169

| | |
|------------|--|
| Figure 3 | Excavation Soil Sample Locations |
| Table 1 | Soil Sample Analytical Results |
| Appendix A | Photographic Log |
| Appendix B | Laboratory Analytical Reports & Chain-of-Custody Documentation |
| Appendix C | October 22, 2018 Closure Request |
| Appendix D | NMOCD Notifications |
| Appendix E | Reclamation Plan |



FIGURES



Site Receptor Map

XTO Energy, Inc.
Big Eddy Unit #149 Battery
Incident Number: NAB1814128371
Unit H, Sec 32, T21S, R28E
Eddy County, New Mexico

FIGURE

1

Legend

- Soil Sample with Concentrations Exceeding Closure Criteria
- ▨ Deferral Area



Notes:
 Sample ID @ Depth Below Ground Surface.
 Samples in bold indicate sample exceeded applicable closure criteria
 Samples in grey indicate samples were removed during excavation activities.

0 12.5 25
 Feet

Sources: Environmental Systems Research Institute (ESRI)



Deferral Area Map

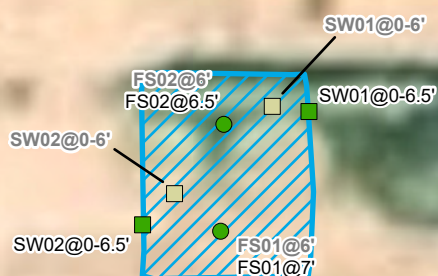
XTO Energy, Inc.
 Big Eddy Unit #149 Battery
 Incident Number: NAB1814128371
 Unit H, Sec 32, T21S, R28E
 Eddy County, New Mexico

FIGURE

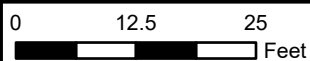
2

Legend

- Excavation Floor Sample in Compliance with Closure Criteria
- Excavation Sidewall Sample in Compliance with Closure Criteria
- Excavated Sidewall Sample
- ▨ Excavation Extent



Notes:
 Sample ID @ Depth Below Ground/Surface.
 Samples in grey indicate samples were removed during excavation activities.



Sources: Environmental Systems Research Institute (ESRI)

**Excavation Soil Sample Locations**

XTO Energy, Inc.
 Big Eddy Unit #149 Battery
 Incident Number: NAB1814128371
 Unit H, Sec 32, T21S, R28E
 Eddy County, New Mexico

FIGURE**3**



TABLES



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 Big Eddy Unit #149 Battery
 XTO Energy
 Eddy County, New Mexico

| Sample I.D. | Sample Date | Sample Depth (feet bgs) | Benzene (mg/kg) | Total BTEX (mg/kg) | TPH GRO (mg/kg) | TPH DRO (mg/kg) | TPH ORO (mg/kg) | GRO+DRO (mg/kg) | Total TPH (mg/kg) | Chloride (mg/kg) |
|--|-------------|-------------------------|-----------------|--------------------|-----------------|-----------------|-----------------|-----------------|-------------------|------------------|
| NMOCD Table 1 Closure Criteria (NMAC 19.15.29) | | | 10 | 50 | NE | NE | NE | NE | 100 | 600 |
| Confirmation Soil Samples | | | | | | | | | | |
| FS01 | 03/17/2023 | 6 | <0.0199 | <0.0398 | 214 | 582 | <50.0 | 793 | 793 | 70.2 |
| FS01 | 03/30/2023 | 7 | <0.00202 | <0.00403 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 568 |
| FS02 | 03/17/2023 | 6 | <0.00201 | <0.00402 | <50.0 | 192 | <50.0 | 192 | 192 | 276 |
| FS02 | 03/30/2023 | 6.5 | <0.00200 | <0.00399 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 393 |
| SW01 | 03/17/2023 | 0-6 | <0.00202 | <0.00403 | <49.9 | 136 | <49.9 | 136 | 136 | 51.1 |
| SW01 | 03/30/2023 | 0-6.5 | <0.00199 | <0.00398 | <49.9 | <49.9 | <49.9 | <49.9 | <49.9 | 272 |
| SW02 | 03/17/2023 | 0-6 | <0.00199 | 0.00526 | <49.8 | 159 | <49.8 | 159 | 159 | 52.6 |
| SW02 | 03/30/2023 | 0-7 | <0.00198 | <0.00397 | <50.0 | <50.0 | <50.0 | <50.0 | <50.0 | 97.2 |

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

Concentrations in **bold** exceed the NMOCD Table 1 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 soil sample removed during excavation activities



APPENDIX A

Photographic Log

**Photographic Log**

XTO Energy, Inc.

Big Eddy Unit #149 Battery

Incident Number NAB1814128371



Photograph: 1 Date: 3/16/2023
Description: Approximate location of deferral area
View: Southwest



Photograph: 2 Date: 3/16/2023
Description: Excavation activities
View: East



Photograph: 3 Date: 3/30/2023
Description: Excavation activities
View: North



Photograph: 4 Date: 3/30/2023
Description: Final excavation extent
View: Southwest



APPENDIX B

Laboratory Analytical Reports & Chain of Custody Documentation



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Tacoma Morrissey
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 3/24/2023 11:20:37 AM

JOB DESCRIPTION

BEU 149
SDG NUMBER 03C1558195

JOB NUMBER

890-4348-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

Eurofins Carlsbad

Job Notes

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization



Generated
3/24/2023 11:20:37 AM

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

Client: Ensolum
Project/Site: BEU 149

Laboratory Job ID: 890-4348-1
SDG: 03C1558195

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Definitions/Glossary

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4348-1
SDG: 03C1558195

Qualifiers

GC VOA

| Qualifier | Qualifier Description |
|-----------|--|
| F1 | MS and/or MSD recovery exceeds control limits. |
| S1- | Surrogate recovery exceeds control limits, low biased. |
| U | Indicates the analyte was analyzed for but not detected. |

GC Semi VOA

| Qualifier | Qualifier Description |
|-----------|--|
| F1 | MS and/or MSD recovery exceeds control limits. |
| F2 | MS/MSD RPD exceeds control limits |
| S1+ | Surrogate recovery exceeds control limits, high biased. |
| U | Indicates the analyte was analyzed for but not detected. |

HPLC/IC

| Qualifier | Qualifier Description |
|-----------|--|
| U | Indicates the analyte was analyzed for but not detected. |

Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|----------------|---|
| α | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CFU | Colony Forming Unit |
| CNF | Contains No Free Liquid |
| DER | Duplicate Error Ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL | Detection Limit (DoD/DOE) |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision Level Concentration (Radiochemistry) |
| EDL | Estimated Detection Limit (Dioxin) |
| LOD | Limit of Detection (DoD/DOE) |
| LOQ | Limit of Quantitation (DoD/DOE) |
| MCL | EPA recommended "Maximum Contaminant Level" |
| MDA | Minimum Detectable Activity (Radiochemistry) |
| MDC | Minimum Detectable Concentration (Radiochemistry) |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| MPN | Most Probable Number |
| MQL | Method Quantitation Limit |
| NC | Not Calculated |
| ND | Not Detected at the reporting limit (or MDL or EDL if shown) |
| NEG | Negative / Absent |
| POS | Positive / Present |
| PQL | Practical Quantitation Limit |
| PRES | Presumptive |
| QC | Quality Control |
| RER | Relative Error Ratio (Radiochemistry) |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |
| TNTC | Too Numerous To Count |

Case Narrative

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4348-1
SDG: 03C1558195

Job ID: 890-4348-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-4348-1

Receipt

The samples were received on 3/17/2023 11:49 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.0°C

Receipt Exceptions

The following samples were received and analyzed from an unpreserved bulk soil jar: FS01 (890-4348-1), FS02 (890-4348-2), SW01 (890-4348-3) and SW02 (890-4348-4).

GC VOA

Method 8021B: The matrix spike duplicate (MSD) recoveries for preparation batch 880-49111 and analytical batch 880-49163 were outside control limits. Non-homogeneity is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 8021B: Surrogate recovery for the following samples were outside control limits: FS01 (890-4348-1) and (MB 880-49111/5-A). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-48950 and analytical batch 880-48944 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.

Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: (LCSD 880-48950/3-A). Evidence of matrix interferences is not obvious.

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

HPLC/IC

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

Client Sample Results

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4348-1
SDG: 03C1558195

Client Sample ID: FS01

Lab Sample ID: 890-4348-1

Date Collected: 03/17/23 10:15

Matrix: Solid

Date Received: 03/17/23 11:49

Sample Depth: 6'

Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------------------|---------|-----------|--------|-------|---|----------------|----------------|---------|
| Benzene | <0.0199 | U | 0.0199 | mg/Kg | | 03/21/23 11:42 | 03/22/23 15:20 | 10 |
| Toluene | <0.0199 | U | 0.0199 | mg/Kg | | 03/21/23 11:42 | 03/22/23 15:20 | 10 |
| Ethylbenzene | 0.0301 | | 0.0199 | mg/Kg | | 03/21/23 11:42 | 03/22/23 15:20 | 10 |
| m-Xylene & p-Xylene | <0.0398 | U | 0.0398 | mg/Kg | | 03/21/23 11:42 | 03/22/23 15:20 | 10 |
| o-Xylene | <0.0199 | U | 0.0199 | mg/Kg | | 03/21/23 11:42 | 03/22/23 15:20 | 10 |
| Xylenes, Total | <0.0398 | U | 0.0398 | mg/Kg | | 03/21/23 11:42 | 03/22/23 15:20 | 10 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 69 | S1- | 70 - 130 | 03/21/23 11:42 | 03/22/23 15:20 | 10 |
| 1,4-Difluorobenzene (Surr) | 121 | | 70 - 130 | 03/21/23 11:42 | 03/22/23 15:20 | 10 |

Method: TAL SOP Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------|---------|-----------|--------|-------|---|----------|----------------|---------|
| Total BTEX | <0.0398 | U | 0.0398 | mg/Kg | | | 03/24/23 10:11 | 1 |

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Total TPH | 793 | | 50.0 | mg/Kg | | | 03/20/23 18:40 | 1 |

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|--------|-----------|------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | 211 | F1 F2 | 50.0 | mg/Kg | | 03/20/23 08:47 | 03/20/23 11:19 | 1 |
| Diesel Range Organics (Over C10-C28) | 582 | | 50.0 | mg/Kg | | 03/20/23 08:47 | 03/20/23 11:19 | 1 |
| Oil Range Organics (Over C28-C36) | <50.0 | U | 50.0 | mg/Kg | | 03/20/23 08:47 | 03/20/23 11:19 | 1 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|----------------|-----------|-----------|----------|----------------|----------------|---------|
| 1-Chlorooctane | 102 | | 70 - 130 | 03/20/23 08:47 | 03/20/23 11:19 | 1 |
| o-Terphenyl | 105 | | 70 - 130 | 03/20/23 08:47 | 03/20/23 11:19 | 1 |

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Chloride | 70.2 | | 5.00 | mg/Kg | | | 03/20/23 13:27 | 1 |

Client Sample ID: FS02

Lab Sample ID: 890-4348-2

Date Collected: 03/17/23 10:20

Matrix: Solid

Date Received: 03/17/23 11:49

Sample Depth: 6'

Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------------------|----------|-----------|---------|-------|---|----------------|----------------|---------|
| Benzene | <0.00201 | U | 0.00201 | mg/Kg | | 03/21/23 11:42 | 03/22/23 12:16 | 1 |
| Toluene | <0.00201 | U | 0.00201 | mg/Kg | | 03/21/23 11:42 | 03/22/23 12:16 | 1 |
| Ethylbenzene | <0.00201 | U F1 | 0.00201 | mg/Kg | | 03/21/23 11:42 | 03/22/23 12:16 | 1 |
| m-Xylene & p-Xylene | <0.00402 | U F1 | 0.00402 | mg/Kg | | 03/21/23 11:42 | 03/22/23 12:16 | 1 |
| o-Xylene | <0.00201 | U F1 | 0.00201 | mg/Kg | | 03/21/23 11:42 | 03/22/23 12:16 | 1 |
| Xylenes, Total | <0.00402 | U F1 | 0.00402 | mg/Kg | | 03/21/23 11:42 | 03/22/23 12:16 | 1 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 108 | | 70 - 130 | 03/21/23 11:42 | 03/22/23 12:16 | 1 |

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Client Sample Results

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4348-1
SDG: 03C1558195

Client Sample ID: FS02

Lab Sample ID: 890-4348-2

Date Collected: 03/17/23 10:20

Matrix: Solid

Date Received: 03/17/23 11:49

Sample Depth: 6'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 1,4-Difluorobenzene (Surr) | 95 | | 70 - 130 | 03/21/23 11:42 | 03/22/23 12:16 | 1 |

Method: TAL SOP Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------|----------|-----------|---------|-------|---|----------|----------------|---------|
| Total BTEX | <0.00402 | U | 0.00402 | mg/Kg | | | 03/24/23 10:11 | 1 |

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Total TPH | 192 | | 50.0 | mg/Kg | | | 03/20/23 18:40 | 1 |

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|-----------|-----------|----------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | mg/Kg | | 03/20/23 08:47 | 03/20/23 12:25 | 1 |
| Diesel Range Organics (Over C10-C28) | 192 | | 50.0 | mg/Kg | | 03/20/23 08:47 | 03/20/23 12:25 | 1 |
| Oil Range Organics (Over C28-C36) | <50.0 | U | 50.0 | mg/Kg | | 03/20/23 08:47 | 03/20/23 12:25 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | Prepared | Analyzed | Dil Fac |
| 1-Chlorooctane | 99 | | 70 - 130 | | | 03/20/23 08:47 | 03/20/23 12:25 | 1 |
| o-Terphenyl | 94 | | 70 - 130 | | | 03/20/23 08:47 | 03/20/23 12:25 | 1 |

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Chloride | 276 | | 25.1 | mg/Kg | | | 03/20/23 13:31 | 5 |

Client Sample ID: SW01

Lab Sample ID: 890-4348-3

Date Collected: 03/17/23 10:25

Matrix: Solid

Date Received: 03/17/23 11:49

Sample Depth: 0-6'

Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------------------|----------|-----------|---------|-------|---|----------------|----------------|---------|
| Benzene | <0.00202 | U | 0.00202 | mg/Kg | | 03/21/23 11:42 | 03/22/23 12:36 | 1 |
| Toluene | <0.00202 | U | 0.00202 | mg/Kg | | 03/21/23 11:42 | 03/22/23 12:36 | 1 |
| Ethylbenzene | <0.00202 | U | 0.00202 | mg/Kg | | 03/21/23 11:42 | 03/22/23 12:36 | 1 |
| m-Xylene & p-Xylene | <0.00403 | U | 0.00403 | mg/Kg | | 03/21/23 11:42 | 03/22/23 12:36 | 1 |
| o-Xylene | <0.00202 | U | 0.00202 | mg/Kg | | 03/21/23 11:42 | 03/22/23 12:36 | 1 |
| Xylenes, Total | <0.00403 | U | 0.00403 | mg/Kg | | 03/21/23 11:42 | 03/22/23 12:36 | 1 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 94 | | 70 - 130 | 03/21/23 11:42 | 03/22/23 12:36 | 1 |
| 1,4-Difluorobenzene (Surr) | 97 | | 70 - 130 | 03/21/23 11:42 | 03/22/23 12:36 | 1 |

Method: TAL SOP Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------|----------|-----------|---------|-------|---|----------|----------------|---------|
| Total BTEX | <0.00403 | U | 0.00403 | mg/Kg | | | 03/24/23 10:11 | 1 |

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Total TPH | 136 | | 49.9 | mg/Kg | | | 03/20/23 18:40 | 1 |

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Client Sample Results

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4348-1
SDG: 03C1558195

Client Sample ID: SW01

Lab Sample ID: 890-4348-3

Date Collected: 03/17/23 10:25

Matrix: Solid

Date Received: 03/17/23 11:49

Sample Depth: 0-6'

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|------------|-----------|----------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9 | U | 49.9 | mg/Kg | | 03/20/23 08:47 | 03/20/23 12:46 | 1 |
| Diesel Range Organics (Over C10-C28) | 136 | | 49.9 | mg/Kg | | 03/20/23 08:47 | 03/20/23 12:46 | 1 |
| Oil Range Organics (Over C28-C36) | <49.9 | U | 49.9 | mg/Kg | | 03/20/23 08:47 | 03/20/23 12:46 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | Prepared | Analyzed | Dil Fac |
| 1-Chlorooctane | 86 | | 70 - 130 | | | 03/20/23 08:47 | 03/20/23 12:46 | 1 |
| o-Terphenyl | 81 | | 70 - 130 | | | 03/20/23 08:47 | 03/20/23 12:46 | 1 |

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Chloride | 51.1 | | 5.01 | mg/Kg | | | 03/20/23 13:36 | 1 |

Client Sample ID: SW02

Lab Sample ID: 890-4348-4

Date Collected: 03/17/23 10:30

Matrix: Solid

Date Received: 03/17/23 11:49

Sample Depth: 0-6'

Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------|----------------|-----------|----------|-------|---|----------------|----------------|---------|
| Benzene | <0.00199 | U | 0.00199 | mg/Kg | | 03/21/23 11:42 | 03/22/23 12:57 | 1 |
| Toluene | <0.00199 | U | 0.00199 | mg/Kg | | 03/21/23 11:42 | 03/22/23 12:57 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | mg/Kg | | 03/21/23 11:42 | 03/22/23 12:57 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | mg/Kg | | 03/21/23 11:42 | 03/22/23 12:57 | 1 |
| o-Xylene | 0.00526 | | 0.00199 | mg/Kg | | 03/21/23 11:42 | 03/22/23 12:57 | 1 |
| Xylenes, Total | 0.00526 | | 0.00398 | mg/Kg | | 03/21/23 11:42 | 03/22/23 12:57 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | Prepared | Analyzed | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 118 | | 70 - 130 | | | 03/21/23 11:42 | 03/22/23 12:57 | 1 |
| 1,4-Difluorobenzene (Surr) | 97 | | 70 - 130 | | | 03/21/23 11:42 | 03/22/23 12:57 | 1 |

Method: TAL SOP Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|-------------------|----------------|-----------|---------|-------|---|----------|----------------|---------|
| Total BTEX | 0.00526 | | 0.00398 | mg/Kg | | | 03/24/23 10:11 | 1 |

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------|------------|-----------|------|-------|---|----------|----------------|---------|
| Total TPH | 159 | | 49.8 | mg/Kg | | | 03/20/23 18:40 | 1 |

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|------------|-----------|----------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <49.8 | U | 49.8 | mg/Kg | | 03/20/23 08:47 | 03/20/23 13:08 | 1 |
| Diesel Range Organics (Over C10-C28) | 159 | | 49.8 | mg/Kg | | 03/20/23 08:47 | 03/20/23 13:08 | 1 |
| Oil Range Organics (Over C28-C36) | <49.8 | U | 49.8 | mg/Kg | | 03/20/23 08:47 | 03/20/23 13:08 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | Prepared | Analyzed | Dil Fac |
| 1-Chlorooctane | 85 | | 70 - 130 | | | 03/20/23 08:47 | 03/20/23 13:08 | 1 |
| o-Terphenyl | 81 | | 70 - 130 | | | 03/20/23 08:47 | 03/20/23 13:08 | 1 |

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Client Sample Results

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4348-1
SDG: 03C1558195

Client Sample ID: SW02
Date Collected: 03/17/23 10:30
Date Received: 03/17/23 11:49
Sample Depth: 0-6'

Lab Sample ID: 890-4348-4
Matrix: Solid

| Method: EPA 300.0 - Anions, Ion Chromatography - Soluble | | | | | | | | | |
|--|--------|-----------|------|-------|---|----------|----------------|---------|--|
| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac | |
| Chloride | 52.6 | | 4.97 | mg/Kg | | | 03/20/23 13:41 | 1 | |

Surrogate Summary

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4348-1
SDG: 03C1558195

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

| | | Percent Surrogate Recovery (Acceptance Limits) | |
|--------------------|------------------------|--|-------------------|
| Lab Sample ID | Client Sample ID | BFB1 (70-130) | DFBZ1 (70-130) |
| 890-4348-1 | FS01 | 69 S1- | 121 |
| 890-4348-2 | FS02 | 108 | 95 |
| 890-4348-2 MS | FS02 | 97 | 101 |
| 890-4348-2 MSD | FS02 | 85 | 98 |
| 890-4348-3 | SW01 | 94 | 97 |
| 890-4348-4 | SW02 | 118 | 97 |
| LCS 880-49111/1-A | Lab Control Sample | 84 | 92 |
| LCSD 880-49111/2-A | Lab Control Sample Dup | 101 | 104 |
| MB 880-49111/5-A | Method Blank | 64 S1- | 88 |

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

| | | Percent Surrogate Recovery (Acceptance Limits) | |
|--------------------|------------------------|--|-------------------|
| Lab Sample ID | Client Sample ID | 1CO1 (70-130) | OTPH1 (70-130) |
| 890-4348-1 | FS01 | 102 | 105 |
| 890-4348-1 MS | FS01 | 116 | 92 |
| 890-4348-1 MSD | FS01 | 107 | 84 |
| 890-4348-2 | FS02 | 99 | 94 |
| 890-4348-3 | SW01 | 86 | 81 |
| 890-4348-4 | SW02 | 85 | 81 |
| LCS 880-48950/2-A | Lab Control Sample | 122 | 125 |
| LCSD 880-48950/3-A | Lab Control Sample Dup | 137 S1+ | 122 |
| MB 880-48950/1-A | Method Blank | 108 | 99 |

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4348-1
SDG: 03C1558195

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-49111/5-A

Matrix: Solid

Analysis Batch: 49163

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 49111

| Analyte | MB Result | MB Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------------------|-----------|--------------|---------|-------|---|----------------|----------------|---------|
| Benzene | <0.00200 | U | 0.00200 | mg/Kg | | 03/21/23 11:42 | 03/22/23 11:54 | 1 |
| Toluene | <0.00200 | U | 0.00200 | mg/Kg | | 03/21/23 11:42 | 03/22/23 11:54 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | mg/Kg | | 03/21/23 11:42 | 03/22/23 11:54 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | mg/Kg | | 03/21/23 11:42 | 03/22/23 11:54 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | mg/Kg | | 03/21/23 11:42 | 03/22/23 11:54 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | mg/Kg | | 03/21/23 11:42 | 03/22/23 11:54 | 1 |

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|-----------------------------|--------------|--------------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 64 | S1- | 70 - 130 | 03/21/23 11:42 | 03/22/23 11:54 | 1 |
| 1,4-Difluorobenzene (Surr) | 88 | | 70 - 130 | 03/21/23 11:42 | 03/22/23 11:54 | 1 |

Lab Sample ID: LCS 880-49111/1-A

Matrix: Solid

Analysis Batch: 49163

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 49111

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---------------------|-------------|------------|---------------|-------|---|------|-------------|
| Benzene | 0.100 | 0.08522 | | mg/Kg | | 85 | 70 - 130 |
| Toluene | 0.100 | 0.08605 | | mg/Kg | | 86 | 70 - 130 |
| Ethylbenzene | 0.100 | 0.08173 | | mg/Kg | | 82 | 70 - 130 |
| m-Xylene & p-Xylene | 0.200 | 0.1709 | | mg/Kg | | 85 | 70 - 130 |
| o-Xylene | 0.100 | 0.08369 | | mg/Kg | | 84 | 70 - 130 |

| Surrogate | LCS %Recovery | LCS Qualifier | Limits |
|-----------------------------|---------------|---------------|----------|
| 4-Bromofluorobenzene (Surr) | 84 | | 70 - 130 |
| 1,4-Difluorobenzene (Surr) | 92 | | 70 - 130 |

Lab Sample ID: LCSD 880-49111/2-A

Matrix: Solid

Analysis Batch: 49163

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 49111

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | Limit |
|---------------------|-------------|-------------|----------------|-------|---|------|-------------|-----|-------|
| Benzene | 0.100 | 0.09598 | | mg/Kg | | 96 | 70 - 130 | 12 | 35 |
| Toluene | 0.100 | 0.09262 | | mg/Kg | | 93 | 70 - 130 | 7 | 35 |
| Ethylbenzene | 0.100 | 0.09865 | | mg/Kg | | 99 | 70 - 130 | 19 | 35 |
| m-Xylene & p-Xylene | 0.200 | 0.2179 | | mg/Kg | | 109 | 70 - 130 | 24 | 35 |
| o-Xylene | 0.100 | 0.1071 | | mg/Kg | | 107 | 70 - 130 | 25 | 35 |

| Surrogate | LCSD %Recovery | LCSD Qualifier | Limits |
|-----------------------------|----------------|----------------|----------|
| 4-Bromofluorobenzene (Surr) | 101 | | 70 - 130 |
| 1,4-Difluorobenzene (Surr) | 104 | | 70 - 130 |

Lab Sample ID: 890-4348-2 MS

Matrix: Solid

Analysis Batch: 49163

Client Sample ID: FS02

Prep Type: Total/NA

Prep Batch: 49111

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---------|---------------|------------------|-------------|-----------|--------------|-------|---|------|-------------|
| Benzene | <0.00201 | U | 0.100 | 0.08183 | | mg/Kg | | 81 | 70 - 130 |
| Toluene | <0.00201 | U | 0.100 | 0.07969 | | mg/Kg | | 79 | 70 - 130 |

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QC Sample Results

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4348-1
SDG: 03C1558195

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

Lab Sample ID: 890-4348-2 MS

Matrix: Solid

Analysis Batch: 49163

Client Sample ID: FS02

Prep Type: Total/NA

Prep Batch: 49111

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---------------------|---------------|------------------|-------------|-----------|--------------|-------|---|------|-------------|
| Ethylbenzene | <0.00201 | U F1 | 0.100 | 0.07120 | | mg/Kg | | 71 | 70 - 130 |
| m-Xylene & p-Xylene | <0.00402 | U F1 | 0.201 | 0.1525 | | mg/Kg | | 76 | 70 - 130 |
| o-Xylene | <0.00201 | U F1 | 0.100 | 0.07468 | | mg/Kg | | 74 | 70 - 130 |

| Surrogate | MS %Recovery | MS Qualifier | Limits |
|-----------------------------|--------------|--------------|----------|
| 4-Bromofluorobenzene (Surr) | 97 | | 70 - 130 |
| 1,4-Difluorobenzene (Surr) | 101 | | 70 - 130 |

Lab Sample ID: 890-4348-2 MSD

Matrix: Solid

Analysis Batch: 49163

Client Sample ID: FS02

Prep Type: Total/NA

Prep Batch: 49111

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | Limit |
|---------------------|---------------|------------------|-------------|------------|---------------|-------|---|------|-------------|-----|-------|
| Benzene | <0.00201 | U | 0.0990 | 0.06959 | | mg/Kg | | 70 | 70 - 130 | 16 | 35 |
| Toluene | <0.00201 | U | 0.0990 | 0.06890 | | mg/Kg | | 70 | 70 - 130 | 15 | 35 |
| Ethylbenzene | <0.00201 | U F1 | 0.0990 | 0.05778 | F1 | mg/Kg | | 58 | 70 - 130 | 21 | 35 |
| m-Xylene & p-Xylene | <0.00402 | U F1 | 0.198 | 0.1222 | F1 | mg/Kg | | 62 | 70 - 130 | 22 | 35 |
| o-Xylene | <0.00201 | U F1 | 0.0990 | 0.05874 | F1 | mg/Kg | | 59 | 70 - 130 | 24 | 35 |

| Surrogate | MSD %Recovery | MSD Qualifier | Limits |
|-----------------------------|---------------|---------------|----------|
| 4-Bromofluorobenzene (Surr) | 85 | | 70 - 130 |
| 1,4-Difluorobenzene (Surr) | 98 | | 70 - 130 |

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

Lab Sample ID: MB 880-48950/1-A

Matrix: Solid

Analysis Batch: 48944

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 48950

| Analyte | MB Result | MB Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|-----------|--------------|------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | mg/Kg | | 03/20/23 08:47 | 03/20/23 08:39 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | mg/Kg | | 03/20/23 08:47 | 03/20/23 08:39 | 1 |
| Oil Range Organics (Over C28-C36) | <50.0 | U | 50.0 | mg/Kg | | 03/20/23 08:47 | 03/20/23 08:39 | 1 |

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|----------------|--------------|--------------|----------|----------------|----------------|---------|
| 1-Chlorooctane | 108 | | 70 - 130 | 03/20/23 08:47 | 03/20/23 08:39 | 1 |
| o-Terphenyl | 99 | | 70 - 130 | 03/20/23 08:47 | 03/20/23 08:39 | 1 |

Lab Sample ID: LCS 880-48950/2-A

Matrix: Solid

Analysis Batch: 48944

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 48950

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|--------------------------------------|-------------|------------|---------------|-------|---|------|-------------|
| Gasoline Range Organics (GRO)-C6-C10 | 1000 | 1086 | | mg/Kg | | 109 | 70 - 130 |
| Diesel Range Organics (Over C10-C28) | 1000 | 1075 | | mg/Kg | | 107 | 70 - 130 |

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QC Sample Results

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4348-1
SDG: 03C1558195

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

Lab Sample ID: LCS 880-48950/2-A

Matrix: Solid

Analysis Batch: 48944

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 48950

| | LCS | LCS | |
|----------------|-----------|-----------|----------|
| Surrogate | %Recovery | Qualifier | Limits |
| 1-Chlorooctane | 122 | | 70 - 130 |
| o-Terphenyl | 125 | | 70 - 130 |

Lab Sample ID: LCSD 880-48950/3-A

Matrix: Solid

Analysis Batch: 48944

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 48950

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|--------------------------------------|-------------|-------------|----------------|-------|---|------|-------------|-----|-----------|
| Gasoline Range Organics (GRO)-C6-C10 | 1000 | 1032 | | mg/Kg | | 103 | 70 - 130 | 5 | 20 |
| Diesel Range Organics (Over C10-C28) | 1000 | 1053 | | mg/Kg | | 105 | 70 - 130 | 2 | 20 |

| | LCSD | LCSD | |
|----------------|-----------|-----------|----------|
| Surrogate | %Recovery | Qualifier | Limits |
| 1-Chlorooctane | 137 | S1+ | 70 - 130 |
| o-Terphenyl | 122 | | 70 - 130 |

Lab Sample ID: 890-4348-1 MS

Matrix: Solid

Analysis Batch: 48944

Client Sample ID: FS01

Prep Type: Total/NA

Prep Batch: 48950

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|--------------------------------------|---------------|------------------|-------------|-----------|--------------|-------|---|------|-------------|
| Gasoline Range Organics (GRO)-C6-C10 | 211 | F1 F2 | 997 | 1699 | F1 | mg/Kg | | 149 | 70 - 130 |
| Diesel Range Organics (Over C10-C28) | 582 | | 997 | 1573 | | mg/Kg | | 99 | 70 - 130 |

| | MS | MS | |
|----------------|-----------|-----------|----------|
| Surrogate | %Recovery | Qualifier | Limits |
| 1-Chlorooctane | 116 | | 70 - 130 |
| o-Terphenyl | 92 | | 70 - 130 |

Lab Sample ID: 890-4348-1 MSD

Matrix: Solid

Analysis Batch: 48944

Client Sample ID: FS01

Prep Type: Total/NA

Prep Batch: 48950

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|--------------------------------------|---------------|------------------|-------------|------------|---------------|-------|---|------|-------------|-----|-----------|
| Gasoline Range Organics (GRO)-C6-C10 | 211 | F1 F2 | 998 | 1318 | F2 | mg/Kg | | 111 | 70 - 130 | 25 | 20 |
| Diesel Range Organics (Over C10-C28) | 582 | | 998 | 1477 | | mg/Kg | | 90 | 70 - 130 | 6 | 20 |

| | MSD | MSD | |
|----------------|-----------|-----------|----------|
| Surrogate | %Recovery | Qualifier | Limits |
| 1-Chlorooctane | 107 | | 70 - 130 |
| o-Terphenyl | 84 | | 70 - 130 |

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QC Sample Results

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4348-1
SDG: 03C1558195

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-48958/1-A

Matrix: Solid

Analysis Batch: 48960

Client Sample ID: Method Blank

Prep Type: Soluble

| Analyte | MB Result | MB Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------------|-----------------|------|-------|---|----------|----------------|---------|
| Chloride | <5.00 | U | 5.00 | mg/Kg | | | 03/20/23 11:11 | 1 |

Lab Sample ID: LCS 880-48958/2-A

Matrix: Solid

Analysis Batch: 48960

Client Sample ID: Lab Control Sample

Prep Type: Soluble

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|----------|----------------|---------------|------------------|-------|---|------|----------------|
| Chloride | 250 | 255.7 | | mg/Kg | | 102 | 90 - 110 |

Lab Sample ID: LCSD 880-48958/3-A

Matrix: Solid

Analysis Batch: 48960

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|----------|----------------|----------------|-------------------|-------|---|------|----------------|-----|--------------|
| Chloride | 250 | 256.3 | | mg/Kg | | 103 | 90 - 110 | 0 | 20 |

Lab Sample ID: 890-4291-A-4-C MS

Matrix: Solid

Analysis Batch: 48960

Client Sample ID: Matrix Spike

Prep Type: Soluble

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|----------|------------------|---------------------|----------------|--------------|-----------------|-------|---|------|----------------|
| Chloride | 98.2 | | 252 | 343.9 | | mg/Kg | | 97 | 90 - 110 |

Lab Sample ID: 890-4291-A-4-D MSD

Matrix: Solid

Analysis Batch: 48960

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|----------|------------------|---------------------|----------------|---------------|------------------|-------|---|------|----------------|-----|--------------|
| Chloride | 98.2 | | 252 | 344.4 | | mg/Kg | | 98 | 90 - 110 | 0 | 20 |

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QC Association Summary

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4348-1
SDG: 03C1558195

GC VOA

Prep Batch: 49111

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-4348-1 | FS01 | Total/NA | Solid | 5035 | |
| 890-4348-2 | FS02 | Total/NA | Solid | 5035 | |
| 890-4348-3 | SW01 | Total/NA | Solid | 5035 | |
| 890-4348-4 | SW02 | Total/NA | Solid | 5035 | |
| MB 880-49111/5-A | Method Blank | Total/NA | Solid | 5035 | |
| LCS 880-49111/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCSD 880-49111/2-A | Lab Control Sample Dup | Total/NA | Solid | 5035 | |
| 890-4348-2 MS | FS02 | Total/NA | Solid | 5035 | |
| 890-4348-2 MSD | FS02 | Total/NA | Solid | 5035 | |

Analysis Batch: 49163

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-4348-1 | FS01 | Total/NA | Solid | 8021B | 49111 |
| 890-4348-2 | FS02 | Total/NA | Solid | 8021B | 49111 |
| 890-4348-3 | SW01 | Total/NA | Solid | 8021B | 49111 |
| 890-4348-4 | SW02 | Total/NA | Solid | 8021B | 49111 |
| MB 880-49111/5-A | Method Blank | Total/NA | Solid | 8021B | 49111 |
| LCS 880-49111/1-A | Lab Control Sample | Total/NA | Solid | 8021B | 49111 |
| LCSD 880-49111/2-A | Lab Control Sample Dup | Total/NA | Solid | 8021B | 49111 |
| 890-4348-2 MS | FS02 | Total/NA | Solid | 8021B | 49111 |
| 890-4348-2 MSD | FS02 | Total/NA | Solid | 8021B | 49111 |

Analysis Batch: 49389

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|------------|------------|
| 890-4348-1 | FS01 | Total/NA | Solid | Total BTEX | |
| 890-4348-2 | FS02 | Total/NA | Solid | Total BTEX | |
| 890-4348-3 | SW01 | Total/NA | Solid | Total BTEX | |
| 890-4348-4 | SW02 | Total/NA | Solid | Total BTEX | |

GC Semi VOA

Analysis Batch: 48944

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 890-4348-1 | FS01 | Total/NA | Solid | 8015B NM | 48950 |
| 890-4348-2 | FS02 | Total/NA | Solid | 8015B NM | 48950 |
| 890-4348-3 | SW01 | Total/NA | Solid | 8015B NM | 48950 |
| 890-4348-4 | SW02 | Total/NA | Solid | 8015B NM | 48950 |
| MB 880-48950/1-A | Method Blank | Total/NA | Solid | 8015B NM | 48950 |
| LCS 880-48950/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 48950 |
| LCSD 880-48950/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 48950 |
| 890-4348-1 MS | FS01 | Total/NA | Solid | 8015B NM | 48950 |
| 890-4348-1 MSD | FS01 | Total/NA | Solid | 8015B NM | 48950 |

Prep Batch: 48950

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|--------|-------------|------------|
| 890-4348-1 | FS01 | Total/NA | Solid | 8015NM Prep | |
| 890-4348-2 | FS02 | Total/NA | Solid | 8015NM Prep | |
| 890-4348-3 | SW01 | Total/NA | Solid | 8015NM Prep | |
| 890-4348-4 | SW02 | Total/NA | Solid | 8015NM Prep | |
| MB 880-48950/1-A | Method Blank | Total/NA | Solid | 8015NM Prep | |
| LCS 880-48950/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |

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QC Association Summary

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4348-1
SDG: 03C1558195

GC Semi VOA (Continued)

Prep Batch: 48950 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|-------------|------------|
| LCSD 880-48950/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |
| 890-4348-1 MS | FS01 | Total/NA | Solid | 8015NM Prep | |
| 890-4348-1 MSD | FS01 | Total/NA | Solid | 8015NM Prep | |

Analysis Batch: 49063

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|---------|------------|
| 890-4348-1 | FS01 | Total/NA | Solid | 8015 NM | |
| 890-4348-2 | FS02 | Total/NA | Solid | 8015 NM | |
| 890-4348-3 | SW01 | Total/NA | Solid | 8015 NM | |
| 890-4348-4 | SW02 | Total/NA | Solid | 8015 NM | |

HPLC/IC

Leach Batch: 48958

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 890-4348-1 | FS01 | Soluble | Solid | DI Leach | |
| 890-4348-2 | FS02 | Soluble | Solid | DI Leach | |
| 890-4348-3 | SW01 | Soluble | Solid | DI Leach | |
| 890-4348-4 | SW02 | Soluble | Solid | DI Leach | |
| MB 880-48958/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-48958/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-48958/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 890-4291-A-4-C MS | Matrix Spike | Soluble | Solid | DI Leach | |
| 890-4291-A-4-D MSD | Matrix Spike Duplicate | Soluble | Solid | DI Leach | |

Analysis Batch: 48960

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-4348-1 | FS01 | Soluble | Solid | 300.0 | 48958 |
| 890-4348-2 | FS02 | Soluble | Solid | 300.0 | 48958 |
| 890-4348-3 | SW01 | Soluble | Solid | 300.0 | 48958 |
| 890-4348-4 | SW02 | Soluble | Solid | 300.0 | 48958 |
| MB 880-48958/1-A | Method Blank | Soluble | Solid | 300.0 | 48958 |
| LCS 880-48958/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 48958 |
| LCSD 880-48958/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 48958 |
| 890-4291-A-4-C MS | Matrix Spike | Soluble | Solid | 300.0 | 48958 |
| 890-4291-A-4-D MSD | Matrix Spike Duplicate | Soluble | Solid | 300.0 | 48958 |

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Lab Chronicle

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4348-1
SDG: 03C1558195

Client Sample ID: FS01

Lab Sample ID: 890-4348-1

Date Collected: 03/17/23 10:15

Matrix: Solid

Date Received: 03/17/23 11:49

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA | Prep | 5035 | | | 5.03 g | 5 mL | 49111 | 03/21/23 11:42 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 10 | 5 mL | 5 mL | 49163 | 03/22/23 15:20 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 49389 | 03/24/23 10:11 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 49063 | 03/20/23 18:40 | AJ | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.01 g | 10 mL | 48950 | 03/20/23 08:47 | AM | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 48944 | 03/20/23 11:19 | AJ | EET MID |
| Soluble | Leach | DI Leach | | | 5 g | 50 mL | 48958 | 03/20/23 11:30 | SMC | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 48960 | 03/20/23 13:27 | SMC | EET MID |

Client Sample ID: FS02

Lab Sample ID: 890-4348-2

Date Collected: 03/17/23 10:20

Matrix: Solid

Date Received: 03/17/23 11:49

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA | Prep | 5035 | | | 4.97 g | 5 mL | 49111 | 03/21/23 11:42 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 49163 | 03/22/23 12:16 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 49389 | 03/24/23 10:11 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 49063 | 03/20/23 18:40 | AJ | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.01 g | 10 mL | 48950 | 03/20/23 08:47 | AM | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 48944 | 03/20/23 12:25 | AJ | EET MID |
| Soluble | Leach | DI Leach | | | 4.98 g | 50 mL | 48958 | 03/20/23 11:30 | SMC | EET MID |
| Soluble | Analysis | 300.0 | | 5 | 50 mL | 50 mL | 48960 | 03/20/23 13:31 | SMC | EET MID |

Client Sample ID: SW01

Lab Sample ID: 890-4348-3

Date Collected: 03/17/23 10:25

Matrix: Solid

Date Received: 03/17/23 11:49

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA | Prep | 5035 | | | 4.96 g | 5 mL | 49111 | 03/21/23 11:42 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 49163 | 03/22/23 12:36 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 49389 | 03/24/23 10:11 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 49063 | 03/20/23 18:40 | AJ | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.02 g | 10 mL | 48950 | 03/20/23 08:47 | AM | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 48944 | 03/20/23 12:46 | AJ | EET MID |
| Soluble | Leach | DI Leach | | | 4.99 g | 50 mL | 48958 | 03/20/23 11:30 | SMC | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 48960 | 03/20/23 13:36 | SMC | EET MID |

Client Sample ID: SW02

Lab Sample ID: 890-4348-4

Date Collected: 03/17/23 10:30

Matrix: Solid

Date Received: 03/17/23 11:49

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA | Prep | 5035 | | | 5.02 g | 5 mL | 49111 | 03/21/23 11:42 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 49163 | 03/22/23 12:57 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 49389 | 03/24/23 10:11 | AJ | EET MID |

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4348-1
SDG: 03C1558195

Client Sample ID: SW02
Date Collected: 03/17/23 10:30
Date Received: 03/17/23 11:49

Lab Sample ID: 890-4348-4
Matrix: Solid

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA | Analysis | 8015 NM | | 1 | | | 49063 | 03/20/23 18:40 | AJ | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.04 g | 10 mL | 48950 | 03/20/23 08:47 | AM | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 48944 | 03/20/23 13:08 | AJ | EET MID |
| Soluble | Leach | DI Leach | | | 5.03 g | 50 mL | 48958 | 03/20/23 11:30 | SMC | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 48960 | 03/20/23 13:41 | SMC | EET MID |

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

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Accreditation/Certification Summary

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4348-1
SDG: 03C1558195

Laboratory: Eurofins Midland

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

| Authority | Program | Identification Number | Expiration Date |
|---|-------------|-----------------------|-----------------|
| Texas | NELAP | T104704400-22-25 | 06-30-23 |
| The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification. | | | |
| Analysis Method | Prep Method | Matrix | Analyte |
| 8015 NM | | Solid | Total TPH |
| Total BTEX | | Solid | Total BTEX |

Method Summary

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4348-1
SDG: 03C1558195

| 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: BEU 149

Job ID: 890-4348-1
SDG: 03C1558195

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Depth |
|---------------|------------------|--------|----------------|----------------|-------|
| 890-4348-1 | FS01 | Solid | 03/17/23 10:15 | 03/17/23 11:49 | 6' |
| 890-4348-2 | FS02 | Solid | 03/17/23 10:20 | 03/17/23 11:49 | 6' |
| 890-4348-3 | SW01 | Solid | 03/17/23 10:25 | 03/17/23 11:49 | 0-6' |
| 890-4348-4 | SW02 | Solid | 03/17/23 10:30 | 03/17/23 11:49 | 0-6' |

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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: _____

www.xenco.com Page 1 of 1

| | | | |
|------------------|---------------------|-------------------------|------------------------|
| Project Manager: | Tacoma Morrissey | Bill to: (if different) | Garrett Green |
| Company Name: | Ensolum, LLC | Company Name: | XTO Energy, Inc |
| Address: | 3122 Nati Parks Hwy | Address: | 3104 E Greene St |
| City, State ZIP: | Carlsbad, NM 88220 | City, State ZIP: | Carlsbad, NM 88220 |
| Phone: | 337-257-6307 | Email: | tmorrissey@ensolum.com |

| | |
|---------------------|---|
| Work Order Comments | |
| Program: | UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/> |
| State of Project: | |
| Reporting: | Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/> |
| Deliverables: | EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other: _____ |

| | | | | | |
|--------------------------|--|---|---|------------|--|
| Project Name: | BEU 149 | Turn Around | <input type="checkbox"/> Routine <input checked="" type="checkbox"/> Rush | Pres. Code | |
| Project Number: | 03C1558195 | | | | |
| Project Location: | 32.438122, -104.10199 | Due Date: | 24 hr | | |
| Sampler's Name: | Meredith Roberts | TAT starts the day received by the lab, if received by 4:30pm | | | |
| PO #: | | | | | |
| SAMPLE RECEIPT | | | | | |
| Samples Received Intact: | Temp Blank: <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Thermometer ID: | Wet Ice: <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Parameters | |
| Cooler Custody Seals: | Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Correction Factor: | -0.07 | | |
| Sample Custody Seals: | Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> N/A | Temperature Reading: | 1.2 | | |
| Total Containers: | | Corrected Temperature: | 1.0 | | |



890-4348 Chain of Custody

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Grab/Comp | # of Cont | ANALYSIS REQUEST | Preservative Codes | Sample Comments |
|--|--------|--------------|--------------|-------|-----------|-----------|------------------|---|---------------------------|
| FS01 | S | 3/17/23 | 1015 | 6' | C | 1 | X BTEX | None: NO | Incident #: NAB1814128371 |
| ES02 | | | 1020 | 6' | | | X TPH | Cool: Cool | |
| SW01 | | | 1025 | 0-6' | | | X Chlorides | HCL: HC | |
| SW02 | | | 1030 | 0-6' | | | | H ₂ SO ₄ : H ₂ | |
| <div> <div>APL: 50-015-33972</div> <div>AFE: PA.2020.03203.EXP.01</div> <div>Fast Certificate</div> </div> | | | | | | | | | |
| <div> <div>msberty@ensolum.com</div> </div> | | | | | | | | | |

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO₂ Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471

Notes: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

| | | | | | |
|------------------------------|--------------------------|--------------|------------------------------|--------------------------|-----------|
| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
| <i>Meredith Roberts</i> | <i>Garrett Green</i> | 3.17.23 1449 | | | |
| | | | | | |
| | | | | | |

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4348-1

SDG Number: 03C1558195

Login Number: 4348

List Number: 1

Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

| Question | Answer | Comment |
|--|--------|-------------------------------------|
| The cooler's custody seal, if present, is intact. | True | |
| Sample custody seals, if present, are intact. | True | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | N/A | Refer to Job Narrative for details. |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | N/A | |

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4348-1

SDG Number: 03C1558195

Login Number: 4348**List Number: 2****Creator: Rodriguez, Leticia****List Source: Eurofins Midland****List Creation: 03/20/23 08:25 AM**

| Question | Answer | Comment |
|--|--------|---------|
| The cooler's custody seal, if present, is intact. | N/A | |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | N/A | |



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Tacoma Morrissey
Ensolum
601 N. Marienfeld St.
Suite 400
Midland, Texas 79701

Generated 4/5/2023 8:06:07 AM Revision 2

JOB DESCRIPTION

BEU 149
SDG NUMBER 03C1558176

JOB NUMBER

890-4448-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

Eurofins Carlsbad**Job Notes**

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Authorization

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

Generated
4/5/2023 8:06:07 AM
Revision 2

Client: Ensolum
Project/Site: BEU 149

Laboratory Job ID: 890-4448-1
SDG: 03C1558176

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Definitions/Glossary

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4448-1
SDG: 03C1558176

Qualifiers

GC VOA

| Qualifier | Qualifier Description |
|-----------|--|
| U | Indicates the analyte was analyzed for but not detected. |

GC Semi VOA

| Qualifier | Qualifier Description |
|-----------|--|
| S1+ | Surrogate recovery exceeds control limits, high biased. |
| U | Indicates the analyte was analyzed for but not detected. |

HPLC/IC

| Qualifier | Qualifier Description |
|-----------|--|
| U | Indicates the analyte was analyzed for but not detected. |

Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|----------------|---|
| α | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CFU | Colony Forming Unit |
| CNF | Contains No Free Liquid |
| DER | Duplicate Error Ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL | Detection Limit (DoD/DOE) |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision Level Concentration (Radiochemistry) |
| EDL | Estimated Detection Limit (Dioxin) |
| LOD | Limit of Detection (DoD/DOE) |
| LOQ | Limit of Quantitation (DoD/DOE) |
| MCL | EPA recommended "Maximum Contaminant Level" |
| MDA | Minimum Detectable Activity (Radiochemistry) |
| MDC | Minimum Detectable Concentration (Radiochemistry) |
| MDL | Method Detection Limit |
| ML | Minimum Level (Dioxin) |
| MPN | Most Probable Number |
| MQL | Method Quantitation Limit |
| NC | Not Calculated |
| ND | Not Detected at the reporting limit (or MDL or EDL if shown) |
| NEG | Negative / Absent |
| POS | Positive / Present |
| PQL | Practical Quantitation Limit |
| PRES | Presumptive |
| QC | Quality Control |
| RER | Relative Error Ratio (Radiochemistry) |
| RL | Reporting Limit or Requested Limit (Radiochemistry) |
| RPD | Relative Percent Difference, a measure of the relative difference between two points |
| TEF | Toxicity Equivalent Factor (Dioxin) |
| TEQ | Toxicity Equivalent Quotient (Dioxin) |
| TNTC | Too Numerous To Count |

Case Narrative

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4448-1
SDG: 03C1558176

Job ID: 890-4448-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative 890-4448-1

REVISION

The report being provided is a revision of the original report sent on 4/4/2023. The report (revision 2) is being revised due to Project ID revision did not generate properly, revision needed.

Report revision history

The report being provided is a revision of the original report sent on 4/4/2023. The report (revision 2) is being revised due to Project ID revision did not generate properly, revision needed.

Revision 1 - 4/4/2023 - Reason - Per client email, correct project ID to match COC.

Receipt

The samples were received on 3/30/2023 2:03 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°C

GC VOA

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

GC Semi VOA

Method 8015MOD_NM: The surrogate recovery for the blank associated with preparation batch 880-50098 and analytical batch 880-50110 was outside the upper control limits.

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

HPLC/IC

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

Client Sample Results

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4448-1
SDG: 03C1558176

Client Sample ID: FS01

Lab Sample ID: 890-4448-1

Date Collected: 03/30/23 10:55

Matrix: Solid

Date Received: 03/30/23 14:03

Sample Depth: 7'

Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------------------|----------|-----------|---------|-------|---|----------------|----------------|---------|
| Benzene | <0.00202 | U | 0.00202 | mg/Kg | | 04/03/23 12:22 | 04/03/23 21:59 | 1 |
| Toluene | <0.00202 | U | 0.00202 | mg/Kg | | 04/03/23 12:22 | 04/03/23 21:59 | 1 |
| Ethylbenzene | <0.00202 | U | 0.00202 | mg/Kg | | 04/03/23 12:22 | 04/03/23 21:59 | 1 |
| m-Xylene & p-Xylene | <0.00403 | U | 0.00403 | mg/Kg | | 04/03/23 12:22 | 04/03/23 21:59 | 1 |
| o-Xylene | <0.00202 | U | 0.00202 | mg/Kg | | 04/03/23 12:22 | 04/03/23 21:59 | 1 |
| Xylenes, Total | <0.00403 | U | 0.00403 | mg/Kg | | 04/03/23 12:22 | 04/03/23 21:59 | 1 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 101 | | 70 - 130 | 04/03/23 12:22 | 04/03/23 21:59 | 1 |
| 1,4-Difluorobenzene (Surr) | 94 | | 70 - 130 | 04/03/23 12:22 | 04/03/23 21:59 | 1 |

Method: TAL SOP Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------|----------|-----------|---------|-------|---|----------|----------------|---------|
| Total BTEX | <0.00403 | U | 0.00403 | mg/Kg | | | 04/04/23 10:41 | 1 |

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Total TPH | <50.0 | U | 50.0 | mg/Kg | | | 04/03/23 17:53 | 1 |

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|--------|-----------|------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | mg/Kg | | 04/02/23 15:41 | 04/03/23 13:47 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | mg/Kg | | 04/02/23 15:41 | 04/03/23 13:47 | 1 |
| Oil Range Organics (Over C28-C36) | <50.0 | U | 50.0 | mg/Kg | | 04/02/23 15:41 | 04/03/23 13:47 | 1 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|----------------|-----------|-----------|----------|----------------|----------------|---------|
| 1-Chlorooctane | 115 | | 70 - 130 | 04/02/23 15:41 | 04/03/23 13:47 | 1 |
| o-Terphenyl | 130 | | 70 - 130 | 04/02/23 15:41 | 04/03/23 13:47 | 1 |

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Chloride | 568 | | 25.2 | mg/Kg | | | 04/03/23 13:44 | 5 |

Client Sample ID: FS02

Lab Sample ID: 890-4448-2

Date Collected: 03/30/23 11:00

Matrix: Solid

Date Received: 03/30/23 14:03

Sample Depth: 6.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------------------|----------|-----------|---------|-------|---|----------------|----------------|---------|
| Benzene | <0.00200 | U | 0.00200 | mg/Kg | | 04/03/23 12:22 | 04/03/23 22:20 | 1 |
| Toluene | <0.00200 | U | 0.00200 | mg/Kg | | 04/03/23 12:22 | 04/03/23 22:20 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | mg/Kg | | 04/03/23 12:22 | 04/03/23 22:20 | 1 |
| m-Xylene & p-Xylene | <0.00399 | U | 0.00399 | mg/Kg | | 04/03/23 12:22 | 04/03/23 22:20 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | mg/Kg | | 04/03/23 12:22 | 04/03/23 22:20 | 1 |
| Xylenes, Total | <0.00399 | U | 0.00399 | mg/Kg | | 04/03/23 12:22 | 04/03/23 22:20 | 1 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 119 | | 70 - 130 | 04/03/23 12:22 | 04/03/23 22:20 | 1 |

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4448-1
SDG: 03C1558176

Client Sample ID: FS02

Lab Sample ID: 890-4448-2

Date Collected: 03/30/23 11:00

Matrix: Solid

Date Received: 03/30/23 14:03

Sample Depth: 6.5'

Method: SW846 8021B - Volatile Organic Compounds (GC) (Continued)

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 1,4-Difluorobenzene (Surr) | 91 | | 70 - 130 | 04/03/23 12:22 | 04/03/23 22:20 | 1 |

Method: TAL SOP Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------|----------|-----------|---------|-------|---|----------|----------------|---------|
| Total BTEX | <0.00399 | U | 0.00399 | mg/Kg | | | 04/04/23 10:41 | 1 |

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Total TPH | <49.9 | U | 49.9 | mg/Kg | | | 04/03/23 17:53 | 1 |

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|-----------|-----------|----------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9 | U | 49.9 | mg/Kg | | 04/02/23 15:41 | 04/03/23 14:09 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | mg/Kg | | 04/02/23 15:41 | 04/03/23 14:09 | 1 |
| Oil Range Organics (Over C28-C36) | <49.9 | U | 49.9 | mg/Kg | | 04/02/23 15:41 | 04/03/23 14:09 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | Prepared | Analyzed | Dil Fac |
| 1-Chlorooctane | 90 | | 70 - 130 | | | 04/02/23 15:41 | 04/03/23 14:09 | 1 |
| o-Terphenyl | 103 | | 70 - 130 | | | 04/02/23 15:41 | 04/03/23 14:09 | 1 |

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Chloride | 393 | | 24.8 | mg/Kg | | | 04/03/23 13:58 | 5 |

Client Sample ID: SW01

Lab Sample ID: 890-4448-3

Date Collected: 03/30/23 09:35

Matrix: Solid

Date Received: 03/30/23 14:03

Sample Depth: 0 - 6.5'

Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------------------|----------|-----------|---------|-------|---|----------------|----------------|---------|
| Benzene | <0.00199 | U | 0.00199 | mg/Kg | | 04/03/23 12:22 | 04/03/23 22:40 | 1 |
| Toluene | <0.00199 | U | 0.00199 | mg/Kg | | 04/03/23 12:22 | 04/03/23 22:40 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | mg/Kg | | 04/03/23 12:22 | 04/03/23 22:40 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | mg/Kg | | 04/03/23 12:22 | 04/03/23 22:40 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | mg/Kg | | 04/03/23 12:22 | 04/03/23 22:40 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | mg/Kg | | 04/03/23 12:22 | 04/03/23 22:40 | 1 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 111 | | 70 - 130 | 04/03/23 12:22 | 04/03/23 22:40 | 1 |
| 1,4-Difluorobenzene (Surr) | 86 | | 70 - 130 | 04/03/23 12:22 | 04/03/23 22:40 | 1 |

Method: TAL SOP Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------|----------|-----------|---------|-------|---|----------|----------------|---------|
| Total BTEX | <0.00398 | U | 0.00398 | mg/Kg | | | 04/04/23 10:41 | 1 |

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Total TPH | <49.9 | U | 49.9 | mg/Kg | | | 04/03/23 17:53 | 1 |

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Client Sample Results

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4448-1
SDG: 03C1558176

Client Sample ID: SW01

Lab Sample ID: 890-4448-3

Date Collected: 03/30/23 09:35

Matrix: Solid

Date Received: 03/30/23 14:03

Sample Depth: 0 - 6.5'

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|-----------|-----------|----------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9 | U | 49.9 | mg/Kg | | 04/02/23 15:41 | 04/03/23 14:31 | 1 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 49.9 | mg/Kg | | 04/02/23 15:41 | 04/03/23 14:31 | 1 |
| Oil Range Organics (Over C28-C36) | <49.9 | U | 49.9 | mg/Kg | | 04/02/23 15:41 | 04/03/23 14:31 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | Prepared | Analyzed | Dil Fac |
| 1-Chlorooctane | 90 | | 70 - 130 | | | 04/02/23 15:41 | 04/03/23 14:31 | 1 |
| o-Terphenyl | 103 | | 70 - 130 | | | 04/02/23 15:41 | 04/03/23 14:31 | 1 |

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Chloride | 272 | | 24.8 | mg/Kg | | | 04/03/23 14:03 | 5 |

Client Sample ID: SW02

Lab Sample ID: 890-4448-4

Date Collected: 03/30/23 09:40

Matrix: Solid

Date Received: 03/30/23 14:03

Sample Depth: 0 - 7'

Method: SW846 8021B - Volatile Organic Compounds (GC)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------------------------|-----------|-----------|----------|-------|---|----------------|----------------|---------|
| Benzene | <0.00198 | U | 0.00198 | mg/Kg | | 04/03/23 12:22 | 04/03/23 23:01 | 1 |
| Toluene | <0.00198 | U | 0.00198 | mg/Kg | | 04/03/23 12:22 | 04/03/23 23:01 | 1 |
| Ethylbenzene | <0.00198 | U | 0.00198 | mg/Kg | | 04/03/23 12:22 | 04/03/23 23:01 | 1 |
| m-Xylene & p-Xylene | <0.00397 | U | 0.00397 | mg/Kg | | 04/03/23 12:22 | 04/03/23 23:01 | 1 |
| o-Xylene | <0.00198 | U | 0.00198 | mg/Kg | | 04/03/23 12:22 | 04/03/23 23:01 | 1 |
| Xylenes, Total | <0.00397 | U | 0.00397 | mg/Kg | | 04/03/23 12:22 | 04/03/23 23:01 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | Prepared | Analyzed | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 111 | | 70 - 130 | | | 04/03/23 12:22 | 04/03/23 23:01 | 1 |
| 1,4-Difluorobenzene (Surr) | 86 | | 70 - 130 | | | 04/03/23 12:22 | 04/03/23 23:01 | 1 |

Method: TAL SOP Total BTEX - Total BTEX Calculation

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------|----------|-----------|---------|-------|---|----------|----------------|---------|
| Total BTEX | <0.00397 | U | 0.00397 | mg/Kg | | | 04/04/23 10:41 | 1 |

Method: SW846 8015 NM - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|-----------|--------|-----------|------|-------|---|----------|----------------|---------|
| Total TPH | <50.0 | U | 50.0 | mg/Kg | | | 04/03/23 17:53 | 1 |

Method: SW846 8015B NM - Diesel Range Organics (DRO) (GC)

| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|-----------|-----------|----------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | mg/Kg | | 04/02/23 15:41 | 04/03/23 14:53 | 1 |
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | mg/Kg | | 04/02/23 15:41 | 04/03/23 14:53 | 1 |
| Oil Range Organics (Over C28-C36) | <50.0 | U | 50.0 | mg/Kg | | 04/02/23 15:41 | 04/03/23 14:53 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | Prepared | Analyzed | Dil Fac |
| 1-Chlorooctane | 90 | | 70 - 130 | | | 04/02/23 15:41 | 04/03/23 14:53 | 1 |
| o-Terphenyl | 99 | | 70 - 130 | | | 04/02/23 15:41 | 04/03/23 14:53 | 1 |

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Client Sample Results

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4448-1
SDG: 03C1558176

Client Sample ID: SW02
Date Collected: 03/30/23 09:40
Date Received: 03/30/23 14:03
Sample Depth: 0 - 7'

Lab Sample ID: 890-4448-4
Matrix: Solid

| Method: EPA 300.0 - Anions, Ion Chromatography - Soluble | | | | | | | | | |
|--|--------|-----------|------|-------|---|----------|----------------|---------|--|
| Analyte | Result | Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac | |
| Chloride | 97.2 | | 5.00 | mg/Kg | | | 04/03/23 14:18 | 1 | |

Surrogate Summary

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4448-1
SDG: 03C1558176

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

| Lab Sample ID | Client Sample ID | BFB1 (70-130) | DFBZ1 (70-130) |
|--------------------|------------------------|------------------|-------------------|
| 890-4448-1 | FS01 | 101 | 94 |
| 890-4448-1 MS | FS01 | 117 | 112 |
| 890-4448-1 MSD | FS01 | 114 | 112 |
| 890-4448-2 | FS02 | 119 | 91 |
| 890-4448-3 | SW01 | 111 | 86 |
| 890-4448-4 | SW02 | 111 | 86 |
| LCS 880-50190/1-A | Lab Control Sample | 111 | 103 |
| LCSD 880-50190/2-A | Lab Control Sample Dup | 106 | 107 |
| MB 880-50130/5-A | Method Blank | 77 | 97 |
| MB 880-50190/5-A | Method Blank | 80 | 96 |

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DFBZ = 1,4-Difluorobenzene (Surr)

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

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

| Lab Sample ID | Client Sample ID | 1CO1 (70-130) | OTPH1 (70-130) |
|----------------------|------------------------|------------------|-------------------|
| 880-26580-A-42-B MS | Matrix Spike | 108 | 108 |
| 880-26580-A-42-C MSD | Matrix Spike Duplicate | 89 | 88 |
| 890-4448-1 | FS01 | 115 | 130 |
| 890-4448-2 | FS02 | 90 | 103 |
| 890-4448-3 | SW01 | 90 | 103 |
| 890-4448-4 | SW02 | 90 | 99 |
| LCS 880-50098/2-A | Lab Control Sample | 101 | 115 |
| LCSD 880-50098/3-A | Lab Control Sample Dup | 101 | 118 |
| MB 880-50098/1-A | Method Blank | 130 | 147 S1+ |

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4448-1
SDG: 03C1558176

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-50130/5-A

Matrix: Solid

Analysis Batch: 50119

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 50130

| Analyte | MB Result | MB Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------------------|-----------|--------------|---------|-------|---|----------------|----------------|---------|
| Benzene | <0.00199 | U | 0.00199 | mg/Kg | | 04/03/23 08:39 | 04/03/23 11:01 | 1 |
| Toluene | <0.00199 | U | 0.00199 | mg/Kg | | 04/03/23 08:39 | 04/03/23 11:01 | 1 |
| Ethylbenzene | <0.00199 | U | 0.00199 | mg/Kg | | 04/03/23 08:39 | 04/03/23 11:01 | 1 |
| m-Xylene & p-Xylene | <0.00398 | U | 0.00398 | mg/Kg | | 04/03/23 08:39 | 04/03/23 11:01 | 1 |
| o-Xylene | <0.00199 | U | 0.00199 | mg/Kg | | 04/03/23 08:39 | 04/03/23 11:01 | 1 |
| Xylenes, Total | <0.00398 | U | 0.00398 | mg/Kg | | 04/03/23 08:39 | 04/03/23 11:01 | 1 |

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|-----------------------------|--------------|--------------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 77 | | 70 - 130 | 04/03/23 08:39 | 04/03/23 11:01 | 1 |
| 1,4-Difluorobenzene (Surr) | 97 | | 70 - 130 | 04/03/23 08:39 | 04/03/23 11:01 | 1 |

Lab Sample ID: MB 880-50190/5-A

Matrix: Solid

Analysis Batch: 50119

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 50190

| Analyte | MB Result | MB Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|---------------------|-----------|--------------|---------|-------|---|----------------|----------------|---------|
| Benzene | <0.00200 | U | 0.00200 | mg/Kg | | 04/03/23 12:22 | 04/03/23 21:38 | 1 |
| Toluene | <0.00200 | U | 0.00200 | mg/Kg | | 04/03/23 12:22 | 04/03/23 21:38 | 1 |
| Ethylbenzene | <0.00200 | U | 0.00200 | mg/Kg | | 04/03/23 12:22 | 04/03/23 21:38 | 1 |
| m-Xylene & p-Xylene | <0.00400 | U | 0.00400 | mg/Kg | | 04/03/23 12:22 | 04/03/23 21:38 | 1 |
| o-Xylene | <0.00200 | U | 0.00200 | mg/Kg | | 04/03/23 12:22 | 04/03/23 21:38 | 1 |
| Xylenes, Total | <0.00400 | U | 0.00400 | mg/Kg | | 04/03/23 12:22 | 04/03/23 21:38 | 1 |

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|-----------------------------|--------------|--------------|----------|----------------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 80 | | 70 - 130 | 04/03/23 12:22 | 04/03/23 21:38 | 1 |
| 1,4-Difluorobenzene (Surr) | 96 | | 70 - 130 | 04/03/23 12:22 | 04/03/23 21:38 | 1 |

Lab Sample ID: LCS 880-50190/1-A

Matrix: Solid

Analysis Batch: 50119

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 50190

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|---------------------|-------------|------------|---------------|-------|---|------|-------------|
| Benzene | 0.100 | 0.1000 | | mg/Kg | | 100 | 70 - 130 |
| Toluene | 0.100 | 0.09798 | | mg/Kg | | 98 | 70 - 130 |
| Ethylbenzene | 0.100 | 0.09773 | | mg/Kg | | 98 | 70 - 130 |
| m-Xylene & p-Xylene | 0.200 | 0.2101 | | mg/Kg | | 105 | 70 - 130 |
| o-Xylene | 0.100 | 0.1071 | | mg/Kg | | 107 | 70 - 130 |

| Surrogate | LCS %Recovery | LCS Qualifier | Limits |
|-----------------------------|---------------|---------------|----------|
| 4-Bromofluorobenzene (Surr) | 111 | | 70 - 130 |
| 1,4-Difluorobenzene (Surr) | 103 | | 70 - 130 |

Lab Sample ID: LCSD 880-50190/2-A

Matrix: Solid

Analysis Batch: 50119

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 50190

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---------|-------------|-------------|----------------|-------|---|------|-------------|-----|-----------|
| Benzene | 0.100 | 0.1016 | | mg/Kg | | 102 | 70 - 130 | 2 | 35 |

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QC Sample Results

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4448-1
SDG: 03C1558176

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

Lab Sample ID: LCSD 880-50190/2-A

Matrix: Solid

Analysis Batch: 50119

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 50190

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---------------------|-------------|-------------|----------------|-------|---|------|-------------|-----|-----------|
| Toluene | 0.100 | 0.09788 | | mg/Kg | | 98 | 70 - 130 | 0 | 35 |
| Ethylbenzene | 0.100 | 0.09718 | | mg/Kg | | 97 | 70 - 130 | 1 | 35 |
| m-Xylene & p-Xylene | 0.200 | 0.2084 | | mg/Kg | | 104 | 70 - 130 | 1 | 35 |
| o-Xylene | 0.100 | 0.1061 | | mg/Kg | | 106 | 70 - 130 | 1 | 35 |

| Surrogate | LCSD %Recovery | LCSD Qualifier | Limits |
|-----------------------------|----------------|----------------|----------|
| 4-Bromofluorobenzene (Surr) | 106 | | 70 - 130 |
| 1,4-Difluorobenzene (Surr) | 107 | | 70 - 130 |

Lab Sample ID: 890-4448-1 MS

Matrix: Solid

Analysis Batch: 50119

Client Sample ID: FS01

Prep Type: Total/NA

Prep Batch: 50190

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|---------------------|---------------|------------------|-------------|-----------|--------------|-------|---|------|-------------|
| Benzene | <0.00202 | U | 0.100 | 0.1082 | | mg/Kg | | 108 | 70 - 130 |
| Toluene | <0.00202 | U | 0.100 | 0.1041 | | mg/Kg | | 104 | 70 - 130 |
| Ethylbenzene | <0.00202 | U | 0.100 | 0.1051 | | mg/Kg | | 105 | 70 - 130 |
| m-Xylene & p-Xylene | <0.00403 | U | 0.201 | 0.2241 | | mg/Kg | | 112 | 70 - 130 |
| o-Xylene | <0.00202 | U | 0.100 | 0.1131 | | mg/Kg | | 113 | 70 - 130 |

| Surrogate | MS %Recovery | MS Qualifier | Limits |
|-----------------------------|--------------|--------------|----------|
| 4-Bromofluorobenzene (Surr) | 117 | | 70 - 130 |
| 1,4-Difluorobenzene (Surr) | 112 | | 70 - 130 |

Lab Sample ID: 890-4448-1 MSD

Matrix: Solid

Analysis Batch: 50119

Client Sample ID: FS01

Prep Type: Total/NA

Prep Batch: 50190

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---------------------|---------------|------------------|-------------|------------|---------------|-------|---|------|-------------|-----|-----------|
| Benzene | <0.00202 | U | 0.0990 | 0.09507 | | mg/Kg | | 96 | 70 - 130 | 13 | 35 |
| Toluene | <0.00202 | U | 0.0990 | 0.08885 | | mg/Kg | | 90 | 70 - 130 | 16 | 35 |
| Ethylbenzene | <0.00202 | U | 0.0990 | 0.08914 | | mg/Kg | | 90 | 70 - 130 | 16 | 35 |
| m-Xylene & p-Xylene | <0.00403 | U | 0.198 | 0.1888 | | mg/Kg | | 95 | 70 - 130 | 17 | 35 |
| o-Xylene | <0.00202 | U | 0.0990 | 0.09566 | | mg/Kg | | 97 | 70 - 130 | 17 | 35 |

| Surrogate | MSD %Recovery | MSD Qualifier | Limits |
|-----------------------------|---------------|---------------|----------|
| 4-Bromofluorobenzene (Surr) | 114 | | 70 - 130 |
| 1,4-Difluorobenzene (Surr) | 112 | | 70 - 130 |

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

Lab Sample ID: MB 880-50098/1-A

Matrix: Solid

Analysis Batch: 50110

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 50098

| Analyte | MB Result | MB Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|-----------|--------------|------|-------|---|----------------|----------------|---------|
| Gasoline Range Organics (GRO)-C6-C10 | <50.0 | U | 50.0 | mg/Kg | | 04/02/23 15:41 | 04/03/23 08:16 | 1 |

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QC Sample Results

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4448-1
SDG: 03C1558176

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

Lab Sample ID: MB 880-50098/1-A

Matrix: Solid

Analysis Batch: 50110

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 50098

| Analyte | MB Result | MB Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------------------|--------------|--------------|----------|-------|---|----------------|----------------|---------|
| Diesel Range Organics (Over C10-C28) | <50.0 | U | 50.0 | mg/Kg | | 04/02/23 15:41 | 04/03/23 08:16 | 1 |
| Oil Range Organics (Over C28-C36) | <50.0 | U | 50.0 | mg/Kg | | 04/02/23 15:41 | 04/03/23 08:16 | 1 |
| Surrogate | MB %Recovery | MB Qualifier | Limits | | | Prepared | Analyzed | Dil Fac |
| 1-Chlorooctane | 130 | | 70 - 130 | | | 04/02/23 15:41 | 04/03/23 08:16 | 1 |
| o-Terphenyl | 147 | S1+ | 70 - 130 | | | 04/02/23 15:41 | 04/03/23 08:16 | 1 |

Lab Sample ID: LCS 880-50098/2-A

Matrix: Solid

Analysis Batch: 50110

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 50098

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|--------------------------------------|---------------|---------------|---------------|-------|---|------|-------------|
| Gasoline Range Organics (GRO)-C6-C10 | 1000 | 974.8 | | mg/Kg | | 97 | 70 - 130 |
| Diesel Range Organics (Over C10-C28) | 1000 | 809.9 | | mg/Kg | | 81 | 70 - 130 |
| Surrogate | LCS %Recovery | LCS Qualifier | Limits | | | | |
| 1-Chlorooctane | 101 | | 70 - 130 | | | | |
| o-Terphenyl | 115 | | 70 - 130 | | | | |

Lab Sample ID: LCSD 880-50098/3-A

Matrix: Solid

Analysis Batch: 50110

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 50098

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|--------------------------------------|----------------|----------------|----------------|-------|---|------|-------------|-----|-----------|
| Gasoline Range Organics (GRO)-C6-C10 | 1000 | 972.8 | | mg/Kg | | 97 | 70 - 130 | 0 | 20 |
| Diesel Range Organics (Over C10-C28) | 1000 | 827.6 | | mg/Kg | | 83 | 70 - 130 | 2 | 20 |
| Surrogate | LCSD %Recovery | LCSD Qualifier | Limits | | | | | | |
| 1-Chlorooctane | 101 | | 70 - 130 | | | | | | |
| o-Terphenyl | 118 | | 70 - 130 | | | | | | |

Lab Sample ID: 880-26580-A-42-B MS

Matrix: Solid

Analysis Batch: 50110

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 50098

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|--------------------------------------|---------------|------------------|-------------|-----------|--------------|-------|---|------|-------------|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9 | U | 998 | 1005 | | mg/Kg | | 97 | 70 - 130 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 998 | 1137 | | mg/Kg | | 114 | 70 - 130 |
| Surrogate | MS %Recovery | MS Qualifier | Limits | | | | | | |
| 1-Chlorooctane | 108 | | 70 - 130 | | | | | | |
| o-Terphenyl | 108 | | 70 - 130 | | | | | | |

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QC Sample Results

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4448-1
SDG: 03C1558176

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

Lab Sample ID: 880-26580-A-42-C MSD

Matrix: Solid

Analysis Batch: 50110

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 50098

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|--------------------------------------|---------------|------------------|-------------|------------|---------------|-------|---|------|-------------|-----|-----------|
| Gasoline Range Organics (GRO)-C6-C10 | <49.9 | U | 999 | 836.7 | | mg/Kg | | 80 | 70 - 130 | 18 | 20 |
| Diesel Range Organics (Over C10-C28) | <49.9 | U | 999 | 941.2 | | mg/Kg | | 94 | 70 - 130 | 19 | 20 |
| Surrogate | MSD %Recovery | MSD Qualifier | Limits | | | | | | | | |
| 1-Chlorooctane | 89 | | 70 - 130 | | | | | | | | |
| o-Terphenyl | 88 | | 70 - 130 | | | | | | | | |

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-50107/1-A

Matrix: Solid

Analysis Batch: 50198

Client Sample ID: Method Blank

Prep Type: Soluble

| Analyte | MB Result | MB Qualifier | RL | Unit | D | Prepared | Analyzed | Dil Fac |
|----------|-----------|--------------|------|-------|---|----------|----------------|---------|
| Chloride | <5.00 | U | 5.00 | mg/Kg | | | 04/03/23 11:52 | 1 |

Lab Sample ID: LCS 880-50107/2-A

Matrix: Solid

Analysis Batch: 50198

Client Sample ID: Lab Control Sample

Prep Type: Soluble

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|----------|-------------|------------|---------------|-------|---|------|-------------|
| Chloride | 250 | 250.0 | | mg/Kg | | 100 | 90 - 110 |

Lab Sample ID: LCSD 880-50107/3-A

Matrix: Solid

Analysis Batch: 50198

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

| Analyte | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|----------|-------------|-------------|----------------|-------|---|------|-------------|-----|-----------|
| Chloride | 250 | 250.2 | | mg/Kg | | 100 | 90 - 110 | 0 | 20 |

Lab Sample ID: 890-4448-1 MS

Matrix: Solid

Analysis Batch: 50198

Client Sample ID: FS01

Prep Type: Soluble

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec Limits |
|----------|---------------|------------------|-------------|-----------|--------------|-------|---|------|-------------|
| Chloride | 568 | | 1260 | 1939 | | mg/Kg | | 109 | 90 - 110 |

Lab Sample ID: 890-4448-1 MSD

Matrix: Solid

Analysis Batch: 50198

Client Sample ID: FS01

Prep Type: Soluble

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|----------|---------------|------------------|-------------|------------|---------------|-------|---|------|-------------|-----|-----------|
| Chloride | 568 | | 1260 | 1935 | | mg/Kg | | 109 | 90 - 110 | 0 | 20 |

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4448-1
SDG: 03C1558176

GC VOA

Analysis Batch: 50119

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-4448-1 | FS01 | Total/NA | Solid | 8021B | 50190 |
| 890-4448-2 | FS02 | Total/NA | Solid | 8021B | 50190 |
| 890-4448-3 | SW01 | Total/NA | Solid | 8021B | 50190 |
| 890-4448-4 | SW02 | Total/NA | Solid | 8021B | 50190 |
| MB 880-50130/5-A | Method Blank | Total/NA | Solid | 8021B | 50130 |
| MB 880-50190/5-A | Method Blank | Total/NA | Solid | 8021B | 50190 |
| LCS 880-50190/1-A | Lab Control Sample | Total/NA | Solid | 8021B | 50190 |
| LCSD 880-50190/2-A | Lab Control Sample Dup | Total/NA | Solid | 8021B | 50190 |
| 890-4448-1 MS | FS01 | Total/NA | Solid | 8021B | 50190 |
| 890-4448-1 MSD | FS01 | Total/NA | Solid | 8021B | 50190 |

Prep Batch: 50130

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|------------------|-----------|--------|--------|------------|
| MB 880-50130/5-A | Method Blank | Total/NA | Solid | 5035 | |

Prep Batch: 50190

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-4448-1 | FS01 | Total/NA | Solid | 5035 | |
| 890-4448-2 | FS02 | Total/NA | Solid | 5035 | |
| 890-4448-3 | SW01 | Total/NA | Solid | 5035 | |
| 890-4448-4 | SW02 | Total/NA | Solid | 5035 | |
| MB 880-50190/5-A | Method Blank | Total/NA | Solid | 5035 | |
| LCS 880-50190/1-A | Lab Control Sample | Total/NA | Solid | 5035 | |
| LCSD 880-50190/2-A | Lab Control Sample Dup | Total/NA | Solid | 5035 | |
| 890-4448-1 MS | FS01 | Total/NA | Solid | 5035 | |
| 890-4448-1 MSD | FS01 | Total/NA | Solid | 5035 | |

Analysis Batch: 50307

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|------------|------------|
| 890-4448-1 | FS01 | Total/NA | Solid | Total BTEX | |
| 890-4448-2 | FS02 | Total/NA | Solid | Total BTEX | |
| 890-4448-3 | SW01 | Total/NA | Solid | Total BTEX | |
| 890-4448-4 | SW02 | Total/NA | Solid | Total BTEX | |

GC Semi VOA

Prep Batch: 50098

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|------------------------|-----------|--------|-------------|------------|
| 890-4448-1 | FS01 | Total/NA | Solid | 8015NM Prep | |
| 890-4448-2 | FS02 | Total/NA | Solid | 8015NM Prep | |
| 890-4448-3 | SW01 | Total/NA | Solid | 8015NM Prep | |
| 890-4448-4 | SW02 | Total/NA | Solid | 8015NM Prep | |
| MB 880-50098/1-A | Method Blank | Total/NA | Solid | 8015NM Prep | |
| LCS 880-50098/2-A | Lab Control Sample | Total/NA | Solid | 8015NM Prep | |
| LCSD 880-50098/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015NM Prep | |
| 880-26580-A-42-B MS | Matrix Spike | Total/NA | Solid | 8015NM Prep | |
| 880-26580-A-42-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015NM Prep | |

Analysis Batch: 50110

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|----------|------------|
| 890-4448-1 | FS01 | Total/NA | Solid | 8015B NM | 50098 |

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4448-1
SDG: 03C1558176

GC Semi VOA (Continued)

Analysis Batch: 50110 (Continued)

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|----------------------|------------------------|-----------|--------|----------|------------|
| 890-4448-2 | FS02 | Total/NA | Solid | 8015B NM | 50098 |
| 890-4448-3 | SW01 | Total/NA | Solid | 8015B NM | 50098 |
| 890-4448-4 | SW02 | Total/NA | Solid | 8015B NM | 50098 |
| MB 880-50098/1-A | Method Blank | Total/NA | Solid | 8015B NM | 50098 |
| LCS 880-50098/2-A | Lab Control Sample | Total/NA | Solid | 8015B NM | 50098 |
| LCSD 880-50098/3-A | Lab Control Sample Dup | Total/NA | Solid | 8015B NM | 50098 |
| 880-26580-A-42-B MS | Matrix Spike | Total/NA | Solid | 8015B NM | 50098 |
| 880-26580-A-42-C MSD | Matrix Spike Duplicate | Total/NA | Solid | 8015B NM | 50098 |

Analysis Batch: 50269

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|---------|------------|
| 890-4448-1 | FS01 | Total/NA | Solid | 8015 NM | |
| 890-4448-2 | FS02 | Total/NA | Solid | 8015 NM | |
| 890-4448-3 | SW01 | Total/NA | Solid | 8015 NM | |
| 890-4448-4 | SW02 | Total/NA | Solid | 8015 NM | |

HPLC/IC

Leach Batch: 50107

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|----------|------------|
| 890-4448-1 | FS01 | Soluble | Solid | DI Leach | |
| 890-4448-2 | FS02 | Soluble | Solid | DI Leach | |
| 890-4448-3 | SW01 | Soluble | Solid | DI Leach | |
| 890-4448-4 | SW02 | Soluble | Solid | DI Leach | |
| MB 880-50107/1-A | Method Blank | Soluble | Solid | DI Leach | |
| LCS 880-50107/2-A | Lab Control Sample | Soluble | Solid | DI Leach | |
| LCSD 880-50107/3-A | Lab Control Sample Dup | Soluble | Solid | DI Leach | |
| 890-4448-1 MS | FS01 | Soluble | Solid | DI Leach | |
| 890-4448-1 MSD | FS01 | Soluble | Solid | DI Leach | |

Analysis Batch: 50198

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 890-4448-1 | FS01 | Soluble | Solid | 300.0 | 50107 |
| 890-4448-2 | FS02 | Soluble | Solid | 300.0 | 50107 |
| 890-4448-3 | SW01 | Soluble | Solid | 300.0 | 50107 |
| 890-4448-4 | SW02 | Soluble | Solid | 300.0 | 50107 |
| MB 880-50107/1-A | Method Blank | Soluble | Solid | 300.0 | 50107 |
| LCS 880-50107/2-A | Lab Control Sample | Soluble | Solid | 300.0 | 50107 |
| LCSD 880-50107/3-A | Lab Control Sample Dup | Soluble | Solid | 300.0 | 50107 |
| 890-4448-1 MS | FS01 | Soluble | Solid | 300.0 | 50107 |
| 890-4448-1 MSD | FS01 | Soluble | Solid | 300.0 | 50107 |

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4448-1
SDG: 03C1558176

Client Sample ID: FS01

Lab Sample ID: 890-4448-1

Date Collected: 03/30/23 10:55

Matrix: Solid

Date Received: 03/30/23 14:03

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA | Prep | 5035 | | | 4.96 g | 5 mL | 50190 | 04/03/23 12:22 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 50119 | 04/03/23 21:59 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 50307 | 04/04/23 10:41 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 50269 | 04/03/23 17:53 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.01 g | 10 mL | 50098 | 04/02/23 15:41 | AJ | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 50110 | 04/03/23 13:47 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 4.97 g | 50 mL | 50107 | 04/03/23 06:34 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 5 | 50 mL | 50 mL | 50198 | 04/03/23 13:44 | SMC | EET MID |

Client Sample ID: FS02

Lab Sample ID: 890-4448-2

Date Collected: 03/30/23 11:00

Matrix: Solid

Date Received: 03/30/23 14:03

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA | Prep | 5035 | | | 5.01 g | 5 mL | 50190 | 04/03/23 12:22 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 50119 | 04/03/23 22:20 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 50307 | 04/04/23 10:41 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 50269 | 04/03/23 17:53 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.02 g | 10 mL | 50098 | 04/02/23 15:41 | AJ | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 50110 | 04/03/23 14:09 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.05 g | 50 mL | 50107 | 04/03/23 06:34 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 5 | 50 mL | 50 mL | 50198 | 04/03/23 13:58 | SMC | EET MID |

Client Sample ID: SW01

Lab Sample ID: 890-4448-3

Date Collected: 03/30/23 09:35

Matrix: Solid

Date Received: 03/30/23 14:03

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA | Prep | 5035 | | | 5.03 g | 5 mL | 50190 | 04/03/23 12:22 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 50119 | 04/03/23 22:40 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 50307 | 04/04/23 10:41 | AJ | EET MID |
| Total/NA | Analysis | 8015 NM | | 1 | | | 50269 | 04/03/23 17:53 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.02 g | 10 mL | 50098 | 04/02/23 15:41 | AJ | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 50110 | 04/03/23 14:31 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5.04 g | 50 mL | 50107 | 04/03/23 06:34 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 5 | 50 mL | 50 mL | 50198 | 04/03/23 14:03 | SMC | EET MID |

Client Sample ID: SW02

Lab Sample ID: 890-4448-4

Date Collected: 03/30/23 09:40

Matrix: Solid

Date Received: 03/30/23 14:03

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA | Prep | 5035 | | | 5.04 g | 5 mL | 50190 | 04/03/23 12:22 | MNR | EET MID |
| Total/NA | Analysis | 8021B | | 1 | 5 mL | 5 mL | 50119 | 04/03/23 23:01 | MNR | EET MID |
| Total/NA | Analysis | Total BTEX | | 1 | | | 50307 | 04/04/23 10:41 | AJ | EET MID |

Eurofins Carlsbad

Lab Chronicle

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4448-1
SDG: 03C1558176

Client Sample ID: SW02
Date Collected: 03/30/23 09:40
Date Received: 03/30/23 14:03

Lab Sample ID: 890-4448-4
Matrix: Solid

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|------------|----------------|--------------|--------------|----------------------|---------|---------|
| Total/NA | Analysis | 8015 NM | | 1 | | | 50269 | 04/03/23 17:53 | SM | EET MID |
| Total/NA | Prep | 8015NM Prep | | | 10.01 g | 10 mL | 50098 | 04/02/23 15:41 | AJ | EET MID |
| Total/NA | Analysis | 8015B NM | | 1 | 1 uL | 1 uL | 50110 | 04/03/23 14:53 | SM | EET MID |
| Soluble | Leach | DI Leach | | | 5 g | 50 mL | 50107 | 04/03/23 06:34 | KS | EET MID |
| Soluble | Analysis | 300.0 | | 1 | 50 mL | 50 mL | 50198 | 04/03/23 14:18 | 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
Project/Site: BEU 149

Job ID: 890-4448-1
SDG: 03C1558176

Laboratory: Eurofins Midland

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

| Authority | Program | Identification Number | Expiration Date |
|---|-------------|-----------------------|-----------------|
| Texas | NELAP | T104704400-22-25 | 06-30-23 |
| The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification. | | | |
| Analysis Method | Prep Method | Matrix | Analyte |
| 8015 NM | | Solid | Total TPH |
| Total BTEX | | Solid | Total BTEX |

Method Summary

Client: Ensolum
Project/Site: BEU 149

Job ID: 890-4448-1
SDG: 03C1558176

| 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: BEU 149

Job ID: 890-4448-1
SDG: 03C1558176

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Depth |
|---------------|------------------|--------|----------------|----------------|----------|
| 890-4448-1 | FS01 | Solid | 03/30/23 10:55 | 03/30/23 14:03 | 7' |
| 890-4448-2 | FS02 | Solid | 03/30/23 11:00 | 03/30/23 14:03 | 6.5' |
| 890-4448-3 | SW01 | Solid | 03/30/23 09:35 | 03/30/23 14:03 | 0 - 6.5' |
| 890-4448-4 | SW02 | Solid | 03/30/23 09:40 | 03/30/23 14:03 | 0 - 7' |

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



Environment Testing
Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

Chain of Custody

Work Order No:

44480

www.xenco.com Page 1 of 1

| | | | |
|------------------|----------------------|-------------------------|------------------------|
| Project Manager: | Tacoma Morrissey | Bill to: (if different) | Garnett Green |
| Company Name: | Ensolum, LLC | Company Name: | XTO Energy |
| Address: | 3122 Nat'l Parks Hwy | Address: | 3104 E Greene St |
| City/State ZIP: | Carlsbad, NM 88330 | City/State ZIP: | Carlsbad, NM 88220 |
| Phone: | 331-251-8307 | Email: | tmorrissey@ensolum.com |

| | |
|--|---|
| Program: <input type="checkbox"/> UST/PST <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RRC <input type="checkbox"/> Superfund <input type="checkbox"/> | |
| State of Project: | |
| Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> PST/UST <input type="checkbox"/> TRRP <input type="checkbox"/> Level IV <input type="checkbox"/> | Deliverables: <input type="checkbox"/> EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other: |

| | | | |
|-------------------------|--|---|---|
| Project Name: | BEU 149 | Turn Around | |
| Project Number: | 03C1538195 | <input type="checkbox"/> Routine <input checked="" type="checkbox"/> Rush | |
| Project Location: | 33.438122, -104.10199 | Due Date: | 24 HR |
| Sampler's Name: | Meredith Roberts | TAT starts the day received by the lab, if received by 4:30pm | |
| P.O. #: | | Wet Ice: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| SAMPLE RECEIPT | Blank: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Thermometer ID: | 7140007 |
| Samples Received Inact: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Correction Factor: | -0.0 |
| Cooler Custody Seals: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Temperature Reading: | 4.2 |
| Sample Custody Seals: | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No | Corrected Temperature: | 4.0 |
| Total Containers: | | | |

| Sample Identification | Matrix | Date Sampled | Time Sampled | Depth | Grab/Comp | # of Cont | Parameters | Preservative Codes | Sample Comments |
|-----------------------|--------|--------------|--------------|--------|-----------|-----------|-------------|-------------------------------------|----------------------|
| FSO1 | S | 3/30/23 | 1035 | 7' | C | 1 | X BTEX | None: NO DI Water: H ₂ O | Incident #: |
| FSO2 | | | 1100 | 6.5' | | | X Chlorides | | NAB1814128371 |
| SWO1 | | | 0935 | 0-6.5' | | | X TPH | | |
| SWO2 | | | 0940 | 0-7' | | | | | AFE: |
| | | | | | | | | | PA 2020.03203.EXP.01 |
| | | | | | | | | | API: 3D-015-33972 |
| | | | | | | | | | Lab Name: |
| | | | | | | | | | mroberts@ensolum.com |

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SIO₂ Na Sr Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010 : 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U Hg: 1631 / 245.1 / 7470 / 7471

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

| | | | | | |
|------------------------------|--------------------------|--------------|------------------------------|--------------------------|-----------|
| Relinquished by: (Signature) | Received by: (Signature) | Date/Time | Relinquished by: (Signature) | Received by: (Signature) | Date/Time |
| 1 <i>Prober</i> | <i>Acclup</i> | 3.30.23 1403 | | | |
| 3 | | | | | |
| 5 | | | | | |

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4448-1

SDG Number: 03C1558176

Login Number: 4448

List Number: 1

Creator: Kramer, Jessica

List Source: Eurofins Carlsbad

| 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. | True | |
| 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 | |

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4448-1

SDG Number: 03C1558176

Login Number: 4448**List Number: 2****Creator: Rodriguez, Leticia****List Source: Eurofins Midland****List Creation: 04/03/23 09:29 AM**

| Question | Answer | Comment |
|--|--------|---------|
| The cooler's custody seal, if present, is intact. | N/A | |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | True | |
| Cooler Temperature is acceptable. | True | |
| Cooler Temperature is recorded. | True | |
| COC is present | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time (excluding tests with immediate HTs) | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | True | |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | True | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | True | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | N/A | |



APPENDIX C

October 22, 2018 Closure Request



LT Environmental, Inc.

3300 North A Street, Building 1, #103
Midland, Texas 79705
432.704.5178

October 19, 2018

Mr. Mike Bratcher
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210**RE: Closure Request
Big Eddy Unit #149 Battery
Remediation Permit Number 2RP-4755
Eddy County, New Mexico**

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), is pleased to present the following letter report detailing the excavation of impacted soil and soil sampling activities at the Big Eddy Unit #149 Battery (Site) in Unit H, Section 32, Township 21 South, Range 28 East, in Eddy County, New Mexico (Figure 1). The purpose of the soil sampling and excavation activities was to address impact to soil after a pinhole leak was discovered near the bottom of an oil tank on May 2, 2018. Approximately 20 barrels (bbls) of oil were released within the earthen containment berm surrounding the tank battery. The remaining oil in the leaking tank was transferred to the adjacent tank, and approximately 3 bbls of free-standing fluid were recovered with a vacuum truck. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on May 17, 2018, and was assigned Remediation Permit Number (RP) 2RP-4755 (Attachment 1). Based on the excavation activities and soil sample analytical results, XTO is requesting no further action for this release.

BACKGROUND

The release and remediation occurred prior to August 14, 2018; therefore, LTE ranked the Site according to criteria in the NMOCD 1993 *Guidelines for Leaks, Spills, and Releases*. The site ranking determined appropriate cleanup standards. Depth to groundwater at the Site is estimated to be less than 50 feet below ground surface (bgs) based on the nearest water well data and known aquifer properties. The nearest permitted water well is C 00940, located approximately 2.17 miles northwest of the Site, with a depth to groundwater of 20 feet bgs and a total depth of 72 feet bgs. The well is approximately 11 feet lower in elevation than the Site. The closest surface water to the Site is an unnamed arroyo located approximately 1.03 miles southwest of the Site. Based on these criteria, the NMOCD site ranking for remediation action levels is 20, and the following remediation action levels apply: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg total benzene, toluene, ethylbenzene, and total xylenes (BTEX); and 100





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mg/kg total petroleum hydrocarbons (TPH). Based on standard practice in the region at the time of the release, LTE applied a site-specific chloride action level of 600 mg/kg.

SOIL SAMPLING

On June 7, 2018, An LTE scientist collected five preliminary soil samples (SS1 through SS5) from a depth of 0.5 feet bgs to assess the lateral extent of the surface release. The soil sample locations, depicted on Figure 2, were selected based on information provided in the initial Form C-141, visual observations, and knowledge of the release location from initial spill response efforts. Soil samples were screened for volatile aromatic hydrocarbons using a photo-ionization detector (PID) equipped with a 10.6 electron volt lamp in accordance with the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases*, August 13, 1993. The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler, and method of analysis and immediately placed on ice. The samples were delivered at 4 degrees Celsius (°C) under strict chain-of-custody procedures to Xenco Laboratories in Midland, Texas, for laboratory analysis of BTEX by United States Environmental Protection Agency (USEPA) Method 8021B, total petroleum hydrocarbons (TPH)-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) by USEPA Method SW8015 Modified, and chloride by USEPA Method 300.0.

Laboratory analytical results for preliminary soil samples SS1, SS2, and SS4 indicated that TPH concentrations exceeded the NMOCD remediation action level at concentrations ranging from 4,310 mg/kg to 6,280 mg/kg. Laboratory analytical results for preliminary soil samples SS3 and SS5 indicated that BTEX, TPH, and chloride concentrations were compliant with the NMOCD site-specific remediation action levels. Laboratory analytical results are presented on Figure 2 and summarized in Table 1, and the laboratory analytical report is included in Attachment 2. Based on the soil sample laboratory analytical results, excavation of impacted soil was required.

EXCAVATION ACTIVITIES

During August 2018, LTE personnel returned to the Site to oversee excavation of impacted soil as indicated by visual observations, field screening, and laboratory analytical results exceeding the NMOCD remediation action level for TPH in preliminary soil samples SS1, SS2, and SS4. Excavation activities commenced on August 10, 2018, and concluded on August 13, 2018. To delineate petroleum hydrocarbon impacts to soil and direct excavation activities, LTE screened soil samples using a PID. Impacted soil was excavated using a hydro-vacuum to the extent possible around the locations of preliminary soil samples SS1, SS2, and SS4. Refusal was encountered at a depth of 1 foot bgs with a hydro-vacuum and mechanical excavation could not be safely conducted within close proximity to the storage tanks. Upon completing hydro-excavation activities to the extent possible, LTE collected subsequent soil samples SS01A, SS02A, and SS04A from the excavation at a depth of 1 foot bgs.





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Page 3

To assess the vertical extent of soil impact, two potholes were advanced at a safe distance from the storage tanks using a backhoe. Soil was field screened at 1-foot intervals in each pothole using a PID. Elevated PID readings were identified to a maximum depth of 12 feet bgs in each pothole. Soil samples PH01 and PH02 were collected from the potholes at a depth of 13 feet bgs to delineate the vertical extent of impacted soil. While on site for excavation activities, LTE collected four additional surface soil samples (SS06 through SS09) from outside of the containment berm to confirm the lateral extent of the surface release. The pothole soil samples, excavation soil samples, and surface soil samples were collected, handled, and analyzed as previously described and submitted to Xenco Laboratories in Midland, Texas.

The final excavation measured approximately 150 square feet with a depth of 1 feet bgs throughout the excavation. Approximately 250 cubic yards of soil were removed from the excavation and potholes. The impacted soil was transported and properly disposed of at the R360 Landfill in Red Bluff, New Mexico. The final excavation extent and soil sample locations are illustrated on Figure 2.

ANALYTICAL RESULTS

Laboratory analytical results for the confirmation surface soil samples SS3, SS5, and SS06 through SSS09 and vertical delineation pothole samples PH01 and PH02 indicated that BTEX, TPH, and chloride concentrations were compliant with NMOCD remediation action levels. Laboratory analytical results indicated preliminary surface soil samples SS1, SS2, and SS4 exceeded the NMOCD remediation action levels for TPH. Impacted soil was excavated from the release area and subsequent soil samples SS01A, SS02A, and SS04A were collected from the excavation. Laboratory analytical results indicated that soil sample SS04A was compliant with NMOCD remediation action levels. Laboratory analytical results indicated that soil samples SS01A and SS02A exceeded the NMOCD remediation action level for TPH. XTO's safety policy restricts soil disturbing activities to a 2-foot radius of any on-site storage tanks or process equipment. This safety policy is established to protect workers and to reduce the likelihood of compromising the foundation of the process equipment and storage tanks. This policy had to be enforced where impacted soil was identified within 2 feet from the oil storage tanks. The excavation was advanced to within two feet from the oil tanks for safety purposes and to a maximum depth of 1 foot bgs due to refusal using a hydro-vacuum. Pothole field screening results and laboratory analytical results for soil samples SS01A and SS02A indicate that soil exceeding the NMOCD remediation action level for TPH was left in-place around and beneath the oil tanks from just beneath the ground surface to less than 13 feet bgs near PH02 and PH01 and, if extrapolated to the center of the tank berm, from 1 foot bgs to less than 13 feet bgs. Laboratory analytical results are presented on Figure 2 and summarized in Table 1, and the complete laboratory analytical reports are included in Attachment 2.





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CONCLUSIONS

Laboratory analytical results for the confirmation surface soil samples and vertical delineation pothole samples indicate that BTEX, TPH, and chloride concentrations are compliant with NMOCD remediation action levels and confirm the release has been successfully defined laterally and vertically. Based on refusal at 1-foot bgs with a hydro-vacuum and limited access to the release area with a backhoe, no further excavation can be safely completed at this time. The remaining impacted soil will be addressed when the Site is closed or reconfigured to allow for remediation to be completed.

Initial response efforts and excavation of impacted soil to the extent possible have mitigated impacts at the Site. XTO requests no further action for release number 2RP-4755 until final reclamation or site reconfiguration, at which time the impacted soil left in place around the storage tanks will be addressed. Upon approval of this request, XTO will backfill the excavation with caliche well pad material. An updated NMOCD Form C-141 is included in Attachment 1. A photographic log of the Site is included as Attachment 3.

If you have any questions or comments, please do not hesitate to contact Ms. Adrian Baker at (432) 887-1255 or abaker@ltenv.com.

Sincerely,

LIT ENVIRONMENTAL INC.

A handwritten signature in blue ink that reads 'Adrian Baker'.

Adrian Baker
Project Geologist

A handwritten signature in black ink that reads 'Ashley L. Ager'.

Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Maria Pruett, NMOCD
Jim Amos, BLM
Shelly Tucker, BLM

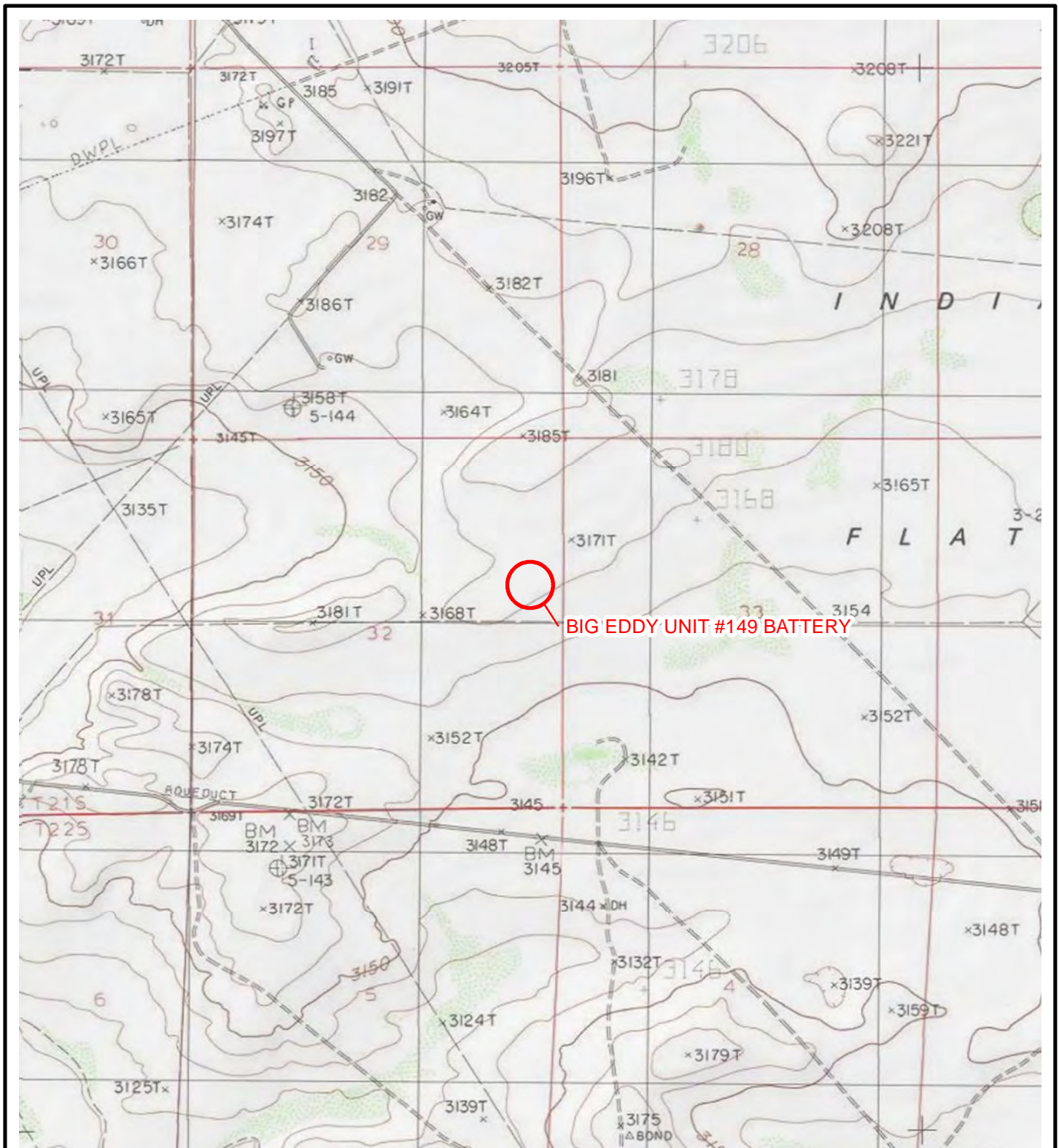
Attachments:

Figure 1 Site Location Map
Figure 2 Soil Sample Locations
Table 1 Soil Analytical Results
Attachment 1 Initial/Final NMOCD Form C-141
Attachment 2 Laboratory Analytical Reports
Attachment 3 Photographic Log



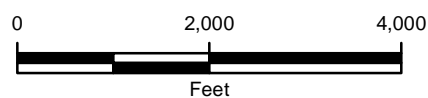
FIGURES



**LEGEND**

 SITE LOCATION

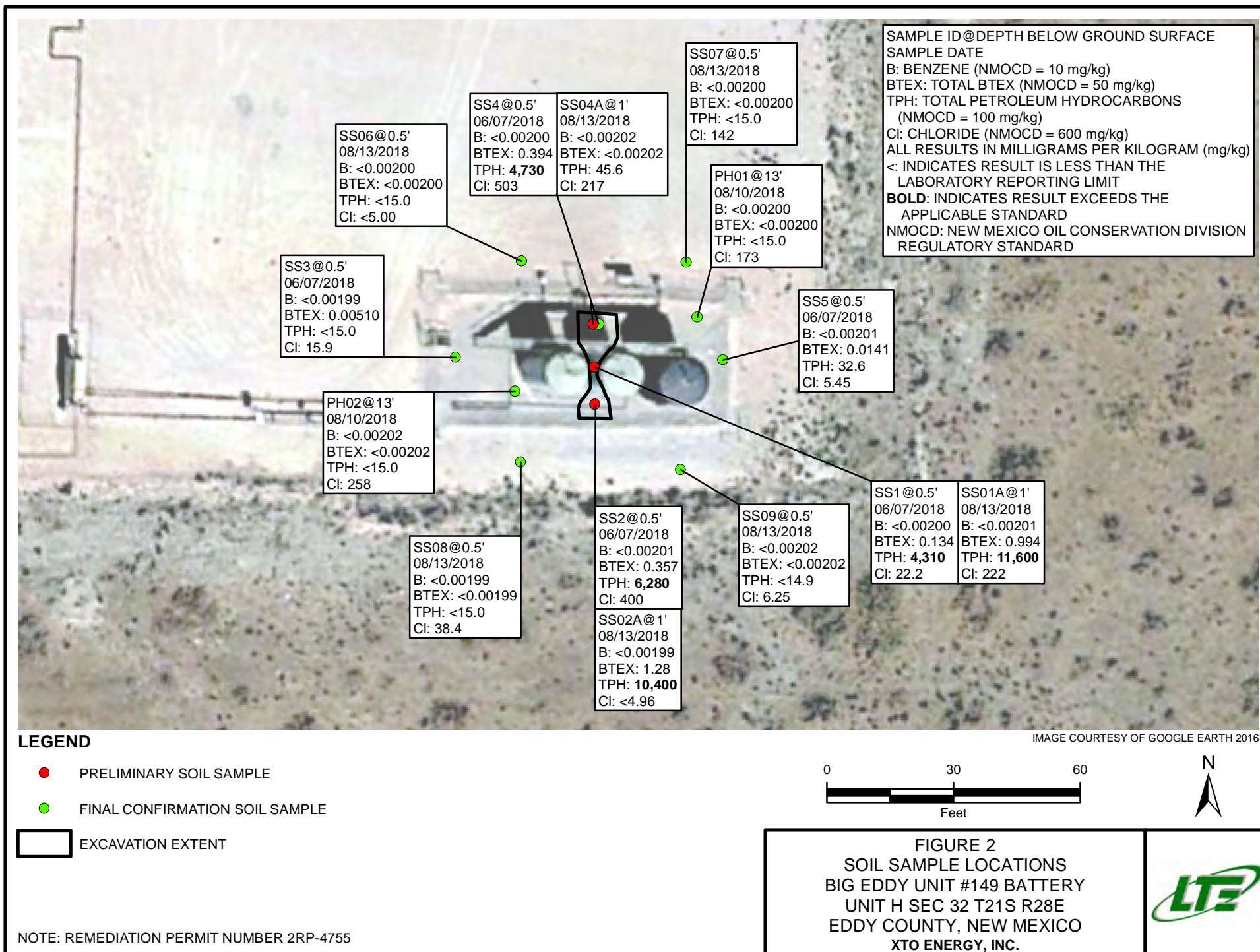
IMAGE COURTESY OF ESRI/USGS



NOTE: REMEDIATION PERMIT
NUMBER 2RP-4755

FIGURE 1
SITE LOCATION MAP
BIG EDDY UNIT #149 BATTERY
UNIT H SEC 32 T21S R28E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.





TABLE



TABLE 1
SOIL ANALYTICAL RESULTS
BIG EDDY UNIT #149 BATTERY
REMEDIATION PERMIT NUMBER 2RP-4755
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

| Sample Name | Sample Depth (feet bgs) | Sample Date | Benzene (mg/kg) | Toluene (mg/kg) | Ethylbenzene (mg/kg) | Total Xylenes (mg/kg) | Total BTEX (mg/kg) | C6-C10 GRO (mg/kg) | C10-C28 DRO (mg/kg) | C28-C40 ORO (mg/kg) | TPH (mg/kg) | Chloride (mg/kg) |
|-------------|-------------------------|-------------|-----------------|-----------------|----------------------|-----------------------|--------------------|--------------------|---------------------|---------------------|---------------|------------------|
| SS1 | 0.5 | 06/07/2018 | <0.00200 | <0.00200 | 0.0206 | 0.114 | 0.134 | 642 | 3,670 | <15.0 | 4,310 | 22.2 |
| SS2 | 0.5 | 06/07/2018 | <0.00201 | <0.00201 | 0.0570 | 0.300 | 0.357 | 1,340 | 4,940 | <15.0 | 6,280 | 400 |
| SS3 | 0.5 | 06/07/2018 | <0.00199 | <0.00199 | 0.00216 | 0.00294 | 0.00510 | <15.0 | <15.0 | <15.0 | <15.0 | 15.9 |
| SS4 | 0.5 | 06/07/2018 | <0.00200 | 0.00430 | 0.0259 | 0.364 | 0.394 | 711 | 4,020 | <15.0 | 4,730 | 503 |
| SS5 | 0.5 | 06/07/2018 | <0.00201 | <0.00201 | <0.00201 | 0.0141 | 0.0141 | <15.0 | 32.6 | <15.0 | 32.6 | 5.45 |
| PH01 | 13 | 08/10/2018 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | 173 |
| PH02 | 13 | 08/10/2018 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <15.0 | <15.0 | <15.0 | <15.0 | 258 |
| SS01A | 1 | 08/13/2018 | <0.00201 | 0.0572 | 0.121 | 0.816 | 0.994 | 2,490 | 9,130 | <74.9 | 11,600 | 222 |
| SS02A | 1 | 08/13/2018 | <0.00199 | 0.0643 | 0.175 | 1.04 | 1.28 | 1,840 | 8,580 | <74.9 | 10,400 | <4.96 |
| SS04A | 1 | 08/13/2018 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <15.0 | 45.6 | <15.0 | 45.6 | 217 |
| SS06 | 0.5 | 08/13/2018 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | <5.00 |
| SS07 | 0.5 | 08/13/2018 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <0.00200 | <15.0 | <15.0 | <15.0 | <15.0 | 142 |
| SS08 | 0.5 | 08/13/2018 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <0.00199 | <15.0 | <15.0 | <15.0 | <15.0 | 38.4 |
| SS09 | 0.5 | 08/13/2018 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <0.00202 | <14.9 | <14.9 | <14.9 | <14.9 | 6.25 |

NMOCD Remediation Action Levels

10

NE

NE

NE

50

NE

NE

NE

100

600

Notes:

bgs - below ground surface

BTEX - benzene, toluene, ethylbenzene, and total xylenes

mg/kg - milligrams per kilogram

NE - not established

NMOCD - New Mexico Oil Conservation Division

DRO - diesel range organics

GRO - gasoline range organics

ORO - oil range organics

TPH - total petroleum hydrocarbons

< - indicates result is below laboratory reporting limits

Bold-indicates result exceeds the applicable regulatory standard

ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141



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

State of New Mexico
Energy Minerals and Natural Resources

MAY 17 2018

Form C-141
Revised April 3, 2017

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

DISTRICT II-ARTESIA O.C.D.
Submit Copy to appropriate District Office in accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

NAB1814128371

OPERATOR

☒ Initial Report ☐ Final Report

| | |
|---|---|
| Name of Company: XTO Energy | Contact: Amy C. Ruth |
| Address: 3104 E. Greene St., Carlsbad, N.M. 88220 | Telephone No: 575-689-3380 |
| Facility Name: Big Eddy Unit #149 Battery | Facility Type: Exploration and Production |
| Surface Owner: State of NM | Mineral Owner: Unknown |
| API No: 30-015-33972 | |

LOCATION OF RELEASE

| Unit Letter | Section | Township | Range | Feet from the | North/South Line | Feet from the | East/West Line | County |
|-------------|---------|----------|-------|---------------|------------------|---------------|----------------|--------|
| H | 32 | 21S | 28E | 2120 | North | 535 | East | |

Latitude 32.438122° Longitude -104.10199° NAD83

NATURE OF RELEASE

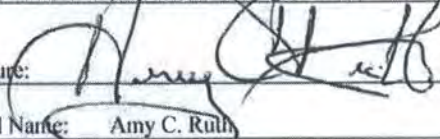
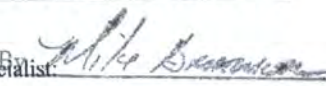
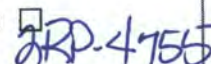
| | | | | | |
|-----------------------------|---|---|-----------------------|----------------------------|---------------|
| Type of Release | Crude Oil | Volume of Release | 20 bbls | Volume Recovered | 3 bbls |
| Source of Release | Tank | Date and Hour of Occurrence | 5/2/2018 time unknown | Date and Hour of Discovery | 5/2/2018 9 am |
| Was Immediate Notice Given? | <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required | If YES, To Whom? | N/A | | |
| By Whom? | N/A | Date and Hour: | N/A | | |
| Was a Watercourse Reached? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | If YES, Volume Impacting the Watercourse. | N/A | | |

If a Watercourse was Impacted, Describe Fully.*
N/A

Describe Cause of Problem and Remedial Action Taken.*
Lease operator discovered a pinhole near the bottom of oil tank. Fluid was transferred to adjacent tank until repair can be made.

Describe Area Affected and Cleanup Action Taken.*
The release affected the earthen secondary containment surrounding the tank battery. Free standing fluids were recovered. An environmental contractor was retained to assist with delineation and remediation efforts.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

| | | |
|--|---|---|
| Signature:  | OIL CONSERVATION DIVISION | |
| Printed Name: Amy C. Ruth | Approved by Environmental Specialist:  | |
| Title: Environmental Coordinator | Approval Date: 5/17/18 | Expiration Date: N/A |
| E-mail Address: Amy.Ruth@xtoenergy.com | Conditions of Approval: See attached | Attached <input type="checkbox"/>  |
| Date: 5/17/2018 | Phone: 575-689-3380 | |

* Attach Additional Sheets If Necessary

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

State of New Mexico
Energy Minerals and Natural
Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

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

| | |
|----------------|----------|
| Incident ID | |
| District RP | 2RP-4755 |
| Facility ID | |
| Application ID | |

Release Notification

Responsible Party

| | |
|--|---------------------------------|
| Responsible Party: XTO Energy, Inc | OGRID |
| Contact Name: Kyle Littrell | Contact Telephone: 432-221-7331 |
| Contact email: Kyle_Littrell@xtoenergy.com | Incident # 2RP-4755 |
| Contact mailing address: 522 W. Mermod, Suite 704 Carlsbad, NM 88220 | |

Location of Release Source

Latitude 32.438122° Longitude -104.10199°
(NAD 83 in decimal degrees to 5 decimal places)

| | |
|---------------------------------------|---------------------------------------|
| Site Name: Big Eddy Unit #149 Battery | Site Type: Exploration and Production |
| Date Release Discovered: 5/2/2018 | API#: 30-015-33972 |

| Unit Letter | Section | Township | Range | County |
|-------------|---------|----------|-------|--------|
| H | 32 | 21S | 28E | Eddy |

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (Name: _____)

Nature and Volume of Release

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

| | | |
|---|--|--|
| <input checked="" type="checkbox"/> Crude Oil | Volume Released (bbls): 20 bbls | Volume Recovered (bbls): 3 bbls |
| <input type="checkbox"/> Produced Water | Volume Released (bbls): | Volume Recovered (bbls): |
| | Is the concentration of dissolved chloride in the produced water >10,000 mg/l? | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| <input type="checkbox"/> Condensate | Volume Released (bbls) | Volume Recovered (bbls) |
| <input type="checkbox"/> Natural Gas | Volume Released (Mcf) | Volume Recovered (Mcf) |
| <input type="checkbox"/> Other (describe) | Volume/Weight Released (provide units) | Volume/Weight Recovered (provide units) |

Cause of Release:


Lease operator discovered a pinhole near the bottom of an oil tank. Fluid was transferred to adjacent tank until repairs can be made.

| | |
|----------------|----------|
| Incident ID | 2RP-4755 |
| District RP | |
| Facility ID | |
| Application ID | |

| | |
|--|--|
| Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input type="checkbox"/> No | If YES, for what reason(s) does the responsible party consider this a major release? |
| If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? | |

Initial Response

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

| | |
|--|------------------------------------|
| <input checked="" type="checkbox"/> The source of the release has been stopped. | |
| <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. | |
| <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. | |
| <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately. | |
| If all the actions described above have <u>not</u> been undertaken, explain why: | |
| Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation. | |
| I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. | |
| Printed Name: <u>Kyle Littrell</u> | Title: <u>SH&E Coordinator</u> |
| Signature:  | Date: <u>10/22/2018</u> |
| email: <u>Kyle_Littrell@xtoenergy.com</u> | Telephone: <u>432-221-7331</u> |
| <u>OCD Only</u> | |
| Received by: _____ | Date: _____ |

| | |
|----------------|----------|
| Incident ID | 2RP-4755 |
| District RP | |
| Facility ID | |
| Application ID | |

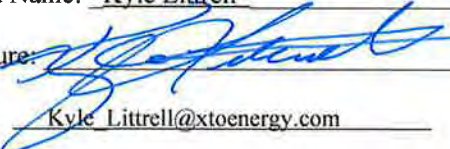
Closure

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 (electronic submittals in .pdf format are preferred) 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.

Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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.

Printed Name: Kyle Littrell Title: SH&E Coordinator
Signature:  Date: 10/22/2018
email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

ATTACHMENT 2: LABORATORY ANALYTICAL REPORTS

Analytical Report 588900

for
LT Environmental, Inc.

Project Manager: Adrian Baker

BEU 149

012918113

20-JUN-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-18-26), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-17-12)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-17-16)

Xenco-Odessa (EPA Lab Code: TX00158): Texas (T104704400-18-15)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)

Xenco-Atlanta (LELAP Lab ID #04176)

Xenco-Tampa: Florida (E87429)

Xenco-Lakeland: Florida (E84098)



20-JUN-18

Project Manager: **Adrian Baker**
LT Environmental, Inc.
4600 W. 60th Avenue
Arvada, CO 80003

Reference: XENCO Report No(s): **588900**
BEU 149
Project Address: NM

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 588900. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 588900 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer
Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

Certified and approved by numerous States and Agencies.

A Small Business and Minority Status Company that delivers SERVICE and QUALITY

Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 588900****LT Environmental, Inc., Arvada, CO**

BEU 149

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|-----------|--------|----------------|--------------|---------------|
| SS1 | S | 06-07-18 12:05 | 6 In | 588900-001 |
| SS2 | S | 06-07-18 12:10 | 6 In | 588900-002 |
| SS3 | S | 06-07-18 12:15 | 6 In | 588900-003 |
| SS4 | S | 06-07-18 12:20 | 6 In | 588900-004 |
| SS5 | S | 06-07-18 12:25 | 6 In | 588900-005 |



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: BEU 149

Project ID: 012918113

Work Order Number(s): 588900

Report Date: 20-JUN-18

Date Received: 06/12/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3053865 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 588900-001,588900-004,588900-002.

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analysis Summary 588900

LT Environmental, Inc., Arvada, CO

Project Name: BEU 149



Project Id: 012918113
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Tue Jun-12-18 10:45 am
Report Date: 20-JUN-18
Project Manager: Jessica Kramer

| <i>Analysis Requested</i> | <i>Lab Id:</i> | 588900-001 | 588900-002 | 588900-003 | 588900-004 | 588900-005 | |
|------------------------------------|-------------------|------------------|------------------|------------------|------------------|------------------|--|
| | <i>Field Id:</i> | SS1 | SS2 | SS3 | SS4 | SS5 | |
| | <i>Depth:</i> | 6- In | 6- In | 6- In | 6- In | 6- In | |
| | <i>Matrix:</i> | SOIL | SOIL | SOIL | SOIL | SOIL | |
| | <i>Sampled:</i> | Jun-07-18 12:05 | Jun-07-18 12:10 | Jun-07-18 12:15 | Jun-07-18 12:20 | Jun-07-18 12:25 | |
| BTEX by EPA 8021B | <i>Extracted:</i> | Jun-18-18 17:00 | Jun-18-18 17:00 | Jun-18-18 17:00 | Jun-18-18 17:00 | Jun-18-18 17:00 | |
| | <i>Analyzed:</i> | Jun-19-18 04:59 | Jun-19-18 05:17 | Jun-19-18 05:35 | Jun-19-18 05:54 | Jun-19-18 06:30 | |
| | <i>Units/RL:</i> | mg/kg RL | mg/kg RL | mg/kg RL | mg/kg RL | mg/kg RL | |
| Benzene | | <0.00200 0.00200 | <0.00201 0.00201 | <0.00199 0.00199 | <0.00200 0.00200 | <0.00201 0.00201 | |
| Toluene | | <0.00200 0.00200 | <0.00201 0.00201 | <0.00199 0.00199 | 0.00430 0.00200 | <0.00201 0.00201 | |
| Ethylbenzene | | 0.0206 0.00200 | 0.0570 0.00201 | 0.00216 0.00199 | 0.0259 0.00200 | <0.00201 0.00201 | |
| m,p-Xylenes | | 0.0811 0.00401 | 0.214 0.00402 | <0.00398 0.00398 | 0.237 0.00399 | 0.00668 0.00402 | |
| o-Xylene | | 0.0325 0.00200 | 0.0860 0.00201 | 0.00294 0.00199 | 0.127 0.00200 | 0.00737 0.00201 | |
| Total Xylenes | | 0.114 0.00200 | 0.300 0.00201 | 0.00294 0.00199 | 0.364 0.00200 | 0.0141 0.00201 | |
| Total BTEX | | 0.134 0.00200 | 0.357 0.00201 | 0.00510 0.00199 | 0.394 0.00200 | 0.0141 0.00201 | |
| Inorganic Anions by EPA 300 | <i>Extracted:</i> | Jun-15-18 10:30 | Jun-15-18 10:30 | Jun-15-18 10:30 | Jun-15-18 10:30 | Jun-15-18 10:30 | |
| | <i>Analyzed:</i> | Jun-15-18 13:03 | Jun-15-18 12:47 | Jun-15-18 13:09 | Jun-15-18 13:14 | Jun-15-18 13:20 | |
| | <i>Units/RL:</i> | mg/kg RL | mg/kg RL | mg/kg RL | mg/kg RL | mg/kg RL | |
| Chloride | | 22.2 4.93 | 400 4.90 | 15.9 5.00 | 503 4.98 | 5.45 4.99 | |
| TPH by SW8015 Mod | <i>Extracted:</i> | Jun-15-18 12:00 | Jun-15-18 12:00 | Jun-15-18 12:00 | Jun-15-18 12:00 | Jun-15-18 12:00 | |
| | <i>Analyzed:</i> | Jun-15-18 20:29 | Jun-15-18 20:49 | Jun-15-18 21:10 | Jun-15-18 21:30 | Jun-15-18 21:50 | |
| | <i>Units/RL:</i> | mg/kg RL | mg/kg RL | mg/kg RL | mg/kg RL | mg/kg RL | |
| Gasoline Range Hydrocarbons (GRO) | | 642 15.0 | 1340 15.0 | <15.0 15.0 | 711 15.0 | <15.0 15.0 | |
| Diesel Range Organics (DRO) | | 3670 15.0 | 4940 15.0 | <15.0 15.0 | 4020 15.0 | 32.6 15.0 | |
| Oil Range Hydrocarbons (ORO) | | <15.0 15.0 | <15.0 15.0 | <15.0 15.0 | <15.0 15.0 | <15.0 15.0 | |
| Total TPH | | 4310 15.0 | 6280 15.0 | <15.0 15.0 | 4730 15.0 | 32.6 15.0 | |

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 588900



LT Environmental, Inc., Arvada, CO

BEU 149

Sample Id: **SS1** Matrix: Soil Date Received: 06.12.18 10.45
 Lab Sample Id: 588900-001 Date Collected: 06.07.18 12.05 Sample Depth: 6 In
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: SCM % Moisture:
 Analyst: SCM Date Prep: 06.15.18 10.30 Basis: Wet Weight
 Seq Number: 3053705

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride | 16887-00-6 | 22.2 | 4.93 | mg/kg | 06.15.18 13.03 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 06.15.18 12.00 Basis: Wet Weight
 Seq Number: 3053586

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | 642 | 15.0 | mg/kg | 06.15.18 20.29 | | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | 3670 | 15.0 | mg/kg | 06.15.18 20.29 | | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 06.15.18 20.29 | U | 1 |
| Total TPH | PHC635 | 4310 | 15.0 | mg/kg | 06.15.18 20.29 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3 | 116 | % | 70-135 | 06.15.18 20.29 | |
| o-Terphenyl | 84-15-1 | 97 | % | 70-135 | 06.15.18 20.29 | |



Certificate of Analytical Results 588900



LT Environmental, Inc., Arvada, CO

BEU 149

Sample Id: **SS1**
Lab Sample Id: 588900-001

Matrix: Soil
Date Collected: 06.07.18 12.05

Date Received: 06.12.18 10.45
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 06.18.18 17.00

Basis: Wet Weight

Seq Number: 3053865

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|----------------------|-------------|---------------|---------|-------|----------------|----------------|------|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 06.19.18 04.59 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 06.19.18 04.59 | U | 1 |
| Ethylbenzene | 100-41-4 | 0.0206 | 0.00200 | mg/kg | 06.19.18 04.59 | | 1 |
| m,p-Xylenes | 179601-23-1 | 0.0811 | 0.00401 | mg/kg | 06.19.18 04.59 | | 1 |
| o-Xylene | 95-47-6 | 0.0325 | 0.00200 | mg/kg | 06.19.18 04.59 | | 1 |
| Total Xylenes | 1330-20-7 | 0.114 | 0.00200 | mg/kg | 06.19.18 04.59 | | 1 |
| Total BTEX | | 0.134 | 0.00200 | mg/kg | 06.19.18 04.59 | | 1 |
| | | | | | | | |
| Surrogate | Cas Number | % Recovery | | Units | Limits | Analysis Date | Flag |
| 4-Bromofluorobenzene | 460-00-4 | 263 | | % | 70-130 | 06.19.18 04.59 | ** |
| 1,4-Difluorobenzene | 540-36-3 | 99 | | % | 70-130 | 06.19.18 04.59 | |



Certificate of Analytical Results 588900

LT Environmental, Inc., Arvada, CO

BEU 149

Sample Id: **SS2** Matrix: **Soil** Date Received: 06.12.18 10.45
 Lab Sample Id: 588900-002 Date Collected: 06.07.18 12.10 Sample Depth: 6 In
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: **SCM** % Moisture:
 Analyst: **SCM** Date Prep: 06.15.18 10.30 Basis: **Wet Weight**
 Seq Number: 3053705

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------|------------|------------|------|-------|----------------|------|-----|
| Chloride | 16887-00-6 | 400 | 4.90 | mg/kg | 06.15.18 12.47 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: **ARM** % Moisture:
 Analyst: **ARM** Date Prep: 06.15.18 12.00 Basis: **Wet Weight**
 Seq Number: 3053586

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------------------------------|------------|-------------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | 1340 | 15.0 | mg/kg | 06.15.18 20.49 | | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | 4940 | 15.0 | mg/kg | 06.15.18 20.49 | | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 06.15.18 20.49 | U | 1 |
| Total TPH | PHC635 | 6280 | 15.0 | mg/kg | 06.15.18 20.49 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3 | 129 | % | 70-135 | 06.15.18 20.49 | |
| o-Terphenyl | 84-15-1 | 96 | % | 70-135 | 06.15.18 20.49 | |



Certificate of Analytical Results 588900



LT Environmental, Inc., Arvada, CO

BEU 149

Sample Id: **SS2**
 Lab Sample Id: 588900-002

Matrix: Soil
 Date Collected: 06.07.18 12.10

Date Received: 06.12.18 10.45
 Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 06.18.18 17.00

Basis: Wet Weight

Seq Number: 3053865

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|----------------------|-------------|---------------|---------|-------|----------------|----------------|------|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 06.19.18 05.17 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 06.19.18 05.17 | U | 1 |
| Ethylbenzene | 100-41-4 | 0.0570 | 0.00201 | mg/kg | 06.19.18 05.17 | | 1 |
| m,p-Xylenes | 179601-23-1 | 0.214 | 0.00402 | mg/kg | 06.19.18 05.17 | | 1 |
| o-Xylene | 95-47-6 | 0.0860 | 0.00201 | mg/kg | 06.19.18 05.17 | | 1 |
| Total Xylenes | 1330-20-7 | 0.300 | 0.00201 | mg/kg | 06.19.18 05.17 | | 1 |
| Total BTEX | | 0.357 | 0.00201 | mg/kg | 06.19.18 05.17 | | 1 |
| | | | | | | | |
| Surrogate | Cas Number | % Recovery | | Units | Limits | Analysis Date | Flag |
| 4-Bromofluorobenzene | 460-00-4 | 527 | | % | 70-130 | 06.19.18 05.17 | ** |
| 1,4-Difluorobenzene | 540-36-3 | 76 | | % | 70-130 | 06.19.18 05.17 | |



Certificate of Analytical Results 588900



LT Environmental, Inc., Arvada, CO

BEU 149

Sample Id: **SS3** Matrix: **Soil** Date Received: 06.12.18 10.45
 Lab Sample Id: 588900-003 Date Collected: 06.07.18 12.15 Sample Depth: 6 In
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: **SCM** % Moisture:
 Analyst: **SCM** Date Prep: 06.15.18 10.30 Basis: **Wet Weight**
 Seq Number: 3053705

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride | 16887-00-6 | 15.9 | 5.00 | mg/kg | 06.15.18 13.09 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: **ARM** % Moisture:
 Analyst: **ARM** Date Prep: 06.15.18 12.00 Basis: **Wet Weight**
 Seq Number: 3053586

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 06.15.18 21.10 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 06.15.18 21.10 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 06.15.18 21.10 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 06.15.18 21.10 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3 | 76 | % | 70-135 | 06.15.18 21.10 | |
| o-Terphenyl | 84-15-1 | 78 | % | 70-135 | 06.15.18 21.10 | |



Certificate of Analytical Results 588900



LT Environmental, Inc., Arvada, CO

BEU 149

Sample Id: **SS3**
Lab Sample Id: 588900-003

Matrix: Soil
Date Collected: 06.07.18 12.15

Date Received: 06.12.18 10.45
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 06.18.18 17.00

Basis: Wet Weight

Seq Number: 3053865

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 06.19.18 05.35 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 06.19.18 05.35 | U | 1 |
| Ethylbenzene | 100-41-4 | 0.00216 | 0.00199 | mg/kg | 06.19.18 05.35 | | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 06.19.18 05.35 | U | 1 |
| o-Xylene | 95-47-6 | 0.00294 | 0.00199 | mg/kg | 06.19.18 05.35 | | 1 |
| Total Xylenes | 1330-20-7 | 0.00294 | 0.00199 | mg/kg | 06.19.18 05.35 | | 1 |
| Total BTEX | | 0.00510 | 0.00199 | mg/kg | 06.19.18 05.35 | | 1 |
| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag | |
| 1,4-Difluorobenzene | 540-36-3 | 86 | % | 70-130 | 06.19.18 05.35 | | |
| 4-Bromofluorobenzene | 460-00-4 | 125 | % | 70-130 | 06.19.18 05.35 | | |



Certificate of Analytical Results 588900

LT Environmental, Inc., Arvada, CO

BEU 149

Sample Id: **SS4**
 Lab Sample Id: 588900-004

Matrix: Soil
 Date Collected: 06.07.18 12.20

Date Received: 06.12.18 10.45
 Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: SCM

Analyst: SCM

Seq Number: 3053705

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Date Prep: 06.15.18 10.30

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride | 16887-00-6 | 503 | 4.98 | mg/kg | 06.15.18 13.14 | | 1 |

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3053586

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Date Prep: 06.15.18 12.00

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | 711 | 15.0 | mg/kg | 06.15.18 21.30 | | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | 4020 | 15.0 | mg/kg | 06.15.18 21.30 | | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 06.15.18 21.30 | U | 1 |
| Total TPH | PHC635 | 4730 | 15.0 | mg/kg | 06.15.18 21.30 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3 | 108 | % | 70-135 | 06.15.18 21.30 | |
| o-Terphenyl | 84-15-1 | 99 | % | 70-135 | 06.15.18 21.30 | |



Certificate of Analytical Results 588900



LT Environmental, Inc., Arvada, CO

BEU 149

Sample Id: **SS4**
 Lab Sample Id: 588900-004

Matrix: Soil
 Date Collected: 06.07.18 12.20

Date Received: 06.12.18 10.45
 Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 06.18.18 17.00

Basis: Wet Weight

Seq Number: 3053865

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|----------------------|-------------|----------------|---------|-------|----------------|----------------|------|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 06.19.18 05.54 | U | 1 |
| Toluene | 108-88-3 | 0.00430 | 0.00200 | mg/kg | 06.19.18 05.54 | | 1 |
| Ethylbenzene | 100-41-4 | 0.0259 | 0.00200 | mg/kg | 06.19.18 05.54 | | 1 |
| m,p-Xylenes | 179601-23-1 | 0.237 | 0.00399 | mg/kg | 06.19.18 05.54 | | 1 |
| o-Xylene | 95-47-6 | 0.127 | 0.00200 | mg/kg | 06.19.18 05.54 | | 1 |
| Total Xylenes | 1330-20-7 | 0.364 | 0.00200 | mg/kg | 06.19.18 05.54 | | 1 |
| Total BTEX | | 0.394 | 0.00200 | mg/kg | 06.19.18 05.54 | | 1 |
| | | | | | | | |
| Surrogate | Cas Number | % Recovery | | Units | Limits | Analysis Date | Flag |
| 4-Bromofluorobenzene | 460-00-4 | 288 | | % | 70-130 | 06.19.18 05.54 | ** |
| 1,4-Difluorobenzene | 540-36-3 | 95 | | % | 70-130 | 06.19.18 05.54 | |



Certificate of Analytical Results 588900

LT Environmental, Inc., Arvada, CO

BEU 149

Sample Id: **SS5** Matrix: **Soil** Date Received: 06.12.18 10.45
 Lab Sample Id: 588900-005 Date Collected: 06.07.18 12.25 Sample Depth: 6 In
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: **SCM** % Moisture:
 Analyst: **SCM** Date Prep: 06.15.18 10.30 Basis: **Wet Weight**
 Seq Number: 3053705

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride | 16887-00-6 | 5.45 | 4.99 | mg/kg | 06.15.18 13.20 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: **ARM** % Moisture:
 Analyst: **ARM** Date Prep: 06.15.18 12.00 Basis: **Wet Weight**
 Seq Number: 3053586

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 06.15.18 21.50 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | 32.6 | 15.0 | mg/kg | 06.15.18 21.50 | | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 06.15.18 21.50 | U | 1 |
| Total TPH | PHC635 | 32.6 | 15.0 | mg/kg | 06.15.18 21.50 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3 | 78 | % | 70-135 | 06.15.18 21.50 | |
| o-Terphenyl | 84-15-1 | 79 | % | 70-135 | 06.15.18 21.50 | |



Certificate of Analytical Results 588900



LT Environmental, Inc., Arvada, CO

BEU 149

Sample Id: SS5
Lab Sample Id: 588900-005

Matrix: Soil
Date Collected: 06.07.18 12.25

Date Received: 06.12.18 10.45
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 06.18.18 17.00

Basis: Wet Weight

Seq Number: 3053865

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|----------------------|-------------|----------------|---------|-------|----------------|----------------|------|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 06.19.18 06.30 | U | 1 |
| Toluene | 108-88-3 | <0.00201 | 0.00201 | mg/kg | 06.19.18 06.30 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00201 | 0.00201 | mg/kg | 06.19.18 06.30 | U | 1 |
| m,p-Xylenes | 179601-23-1 | 0.00668 | 0.00402 | mg/kg | 06.19.18 06.30 | | 1 |
| o-Xylene | 95-47-6 | 0.00737 | 0.00201 | mg/kg | 06.19.18 06.30 | | 1 |
| Total Xylenes | 1330-20-7 | 0.0141 | 0.00201 | mg/kg | 06.19.18 06.30 | | 1 |
| Total BTEX | | 0.0141 | 0.00201 | mg/kg | 06.19.18 06.30 | | 1 |
| | | | | | | | |
| Surrogate | Cas Number | % Recovery | | Units | Limits | Analysis Date | Flag |
| 1,4-Difluorobenzene | 540-36-3 | 91 | | % | 70-130 | 06.19.18 06.30 | |
| 4-Bromofluorobenzene | 460-00-4 | 110 | | % | 70-130 | 06.19.18 06.30 | |



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



LT Environmental, Inc.

BEU 149

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3053705

MB Sample Id: 7656729-1-BLK

Matrix: Solid

LCS Sample Id: 7656729-1-BKS

Prep Method: E300P

Date Prep: 06.15.18

LCSD Sample Id: 7656729-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|-----------|-----------|--------------|------------|----------|-------------|-----------|--------|------|-----------|-------|----------------|------|
| Chloride | <5.00 | 250 | 254 | 102 | 253 | 101 | 90-110 | 0 | 20 | mg/kg | 06.15.18 12:36 | |

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3053705

Parent Sample Id: 588900-002

Matrix: Soil

MS Sample Id: 588900-002 S

Prep Method: E300P

Date Prep: 06.15.18

MSD Sample Id: 588900-002 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|-----------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Chloride | 400 | 245 | 628 | 93 | 628 | 93 | 90-110 | 0 | 20 | mg/kg | 06.15.18 12:53 | |

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3053705

Parent Sample Id: 588983-001

Matrix: Soil

MS Sample Id: 588983-001 S

Prep Method: E300P

Date Prep: 06.15.18

MSD Sample Id: 588983-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|-----------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Chloride | 398 | 246 | 620 | 90 | 619 | 90 | 90-110 | 0 | 20 | mg/kg | 06.15.18 14:08 | |

Analytical Method: TPH by SW8015 Mod

Seq Number: 3053586

MB Sample Id: 7656745-1-BLK

Matrix: Solid

LCS Sample Id: 7656745-1-BKS

Prep Method: TX1005P

Date Prep: 06.15.18

LCSD Sample Id: 7656745-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|-----------------------------------|-----------|--------------|------------|----------|-------------|-----------|--------|------|-----------|-------|----------------|------|
| Gasoline Range Hydrocarbons (GRO) | <15.0 | 1000 | 837 | 84 | 847 | 85 | 70-135 | 1 | 20 | mg/kg | 06.15.18 13:26 | |
| Diesel Range Organics (DRO) | <15.0 | 1000 | 827 | 83 | 854 | 85 | 70-135 | 3 | 20 | mg/kg | 06.15.18 13:26 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|----------------|---------|---------|----------|----------|-----------|-----------|--------|-------|----------------|
| 1-Chlorooctane | 80 | | 107 | | 109 | | 70-135 | % | 06.15.18 13:26 |
| o-Terphenyl | 84 | | 86 | | 83 | | 70-135 | % | 06.15.18 13:26 |

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



LT Environmental, Inc.

BEU 149

Analytical Method: TPH by SW8015 Mod

Seq Number: 3053586

Parent Sample Id: 589277-001

Matrix: Soil

MS Sample Id: 589277-001 S

Prep Method: TX1005P

Date Prep: 06.15.18

MSD Sample Id: 589277-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|-----------------------------------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Gasoline Range Hydrocarbons (GRO) | <15.0 | 999 | 820 | 82 | 871 | 87 | 70-135 | 6 | 20 | mg/kg | 06.15.18 14:26 | |
| Diesel Range Organics (DRO) | 331 | 999 | 1120 | 79 | 1160 | 83 | 70-135 | 4 | 20 | mg/kg | 06.15.18 14:26 | |

Surrogate

| | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|----------------|---------|---------|----------|----------|--------|-------|----------------|
| 1-Chlorooctane | 109 | | 102 | | 70-135 | % | 06.15.18 14:26 |
| o-Terphenyl | 89 | | 90 | | 70-135 | % | 06.15.18 14:26 |

Analytical Method: BTEX by EPA 8021B

Seq Number: 3053865

MB Sample Id: 7656907-1-BLK

Matrix: Solid

LCS Sample Id: 7656907-1-BKS

Prep Method: SW5030B

Date Prep: 06.18.18

LCSD Sample Id: 7656907-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|--------------|-----------|--------------|------------|----------|-------------|-----------|--------|------|-----------|-------|----------------|------|
| Benzene | <0.00200 | 0.0998 | 0.0818 | 82 | 0.0773 | 77 | 70-130 | 6 | 35 | mg/kg | 06.19.18 02:36 | |
| Toluene | <0.00200 | 0.0998 | 0.0826 | 83 | 0.0798 | 80 | 70-130 | 3 | 35 | mg/kg | 06.19.18 02:36 | |
| Ethylbenzene | <0.00200 | 0.0998 | 0.0818 | 82 | 0.0783 | 78 | 70-130 | 4 | 35 | mg/kg | 06.19.18 02:36 | |
| m,p-Xylenes | <0.00399 | 0.200 | 0.168 | 84 | 0.164 | 82 | 70-130 | 2 | 35 | mg/kg | 06.19.18 02:36 | |
| o-Xylene | <0.00200 | 0.0998 | 0.0773 | 77 | 0.0820 | 82 | 70-130 | 6 | 35 | mg/kg | 06.19.18 02:36 | |

Surrogate

| | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|----------------------|---------|---------|----------|----------|-----------|-----------|--------|-------|----------------|
| 1,4-Difluorobenzene | 91 | | 81 | | 94 | | 70-130 | % | 06.19.18 02:36 |
| 4-Bromofluorobenzene | 107 | | 102 | | 115 | | 70-130 | % | 06.19.18 02:36 |

Analytical Method: BTEX by EPA 8021B

Seq Number: 3053865

Parent Sample Id: 588899-004

Matrix: Soil

MS Sample Id: 588899-004 S

Prep Method: SW5030B

Date Prep: 06.18.18

MSD Sample Id: 588899-004 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|--------------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Benzene | <0.00200 | 0.100 | 0.0560 | 56 | 0.0631 | 62 | 70-130 | 12 | 35 | mg/kg | 06.19.18 03:13 | X |
| Toluene | <0.00200 | 0.100 | 0.0452 | 45 | 0.0549 | 54 | 70-130 | 19 | 35 | mg/kg | 06.19.18 03:13 | X |
| Ethylbenzene | <0.00200 | 0.100 | 0.0349 | 35 | 0.0462 | 46 | 70-130 | 28 | 35 | mg/kg | 06.19.18 03:13 | X |
| m,p-Xylenes | <0.00401 | 0.200 | 0.0697 | 35 | 0.0947 | 47 | 70-130 | 30 | 35 | mg/kg | 06.19.18 03:13 | X |
| o-Xylene | <0.00200 | 0.100 | 0.0354 | 35 | 0.0477 | 47 | 70-130 | 30 | 35 | mg/kg | 06.19.18 03:13 | X |

Surrogate

| | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|----------------------|---------|---------|----------|----------|--------|-------|----------------|
| 1,4-Difluorobenzene | 90 | | 97 | | 70-130 | % | 06.19.18 03:13 |
| 4-Bromofluorobenzene | 105 | | 104 | | 70-130 | % | 06.19.18 03:13 |

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



Setting the Standard since 1990
Stafford, Texas (281-240-4200)
Dallas Texas (214-902-0300)

San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

CHAIN OF CUSTODY
Page of

Page Of 7

| Client / Reporting Information | | | | | | Project Information | | | | | | | Analytical Information | | | Matrix Codes | | | | | | | |
|--|--------------------------------|------|------|--------|--------------|--|-----------------|-----------------------------|-------|------|--------|---|---|----------|---|--------------|--|--|--|--|--|--|--|
| Company Name / Branch: CE Environmental, Inc - Premier Office 3300 North 18 th , Bldg 2, Unit #103, Midland, TX 79705 | | | | | | Project Name/Number: BEU 149 / 012918113 | | | | | | | | | | | | | | | | | |
| Email: Abdur@tenu.com 432-704-5178 | | | | | | Invoice To: NIM | | | | | | | | | | | | | | | | | |
| Phone No: | | | | | | | | | | | | | | | | | | | | | | | |
| Project Contact: Adrian Baker | | | | | | PO Number: 2ACP-TSD | | | | | | | | | | | | | | | | | |
| Sampler's Name: Daniel Thomas | | | | | | | | | | | | | | | | | | | | | | | |
| No. | Field ID / Point of Collection | | | | | Collection | | Number of preserved bottles | | | | | | | | | | | | | | | |
| | Sample Depth | Date | Time | Matrix | # of bottles | HCl | NaOH/Zn Acetate | HNO3 | H2SO4 | NaOH | NaHSO4 | MeOH | NONE | | | | | | | | | | |
| 1 | SS1 | 6-11 | 1205 | SOL | 1 | | | | | | | | | BTEX | X | | | | | | | | |
| 2 | SS2 | | 1210 | | | | | | | | | | | TPH | X | | | | | | | | |
| 3 | SS3 | | 1215 | | | | | | | | | | | Chloride | X | | | | | | | | |
| 4 | SS4 | | 1220 | | | | | | | | | | | | | | | | | | | | |
| 5 | SS5 | | 1225 | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | |
| Turnaround Time (Business days) | | | | | | Data Deliverable Information | | | | | | | Notes: | | | | | | | | | | |
| <input type="checkbox"/> Same Day TAT | | | | | | <input type="checkbox"/> Level II Std QC | | | | | | <input type="checkbox"/> Level IV (Full Data Pkg /raw data) | | | | | | | | | | | |
| <input type="checkbox"/> Next Day EMERGENCY | | | | | | <input type="checkbox"/> Level III Std QC+ Forms | | | | | | <input type="checkbox"/> TRRP Level IV | | | | | | | | | | | |
| <input type="checkbox"/> 2 Day EMERGENCY | | | | | | <input type="checkbox"/> Contract TAT | | | | | | <input type="checkbox"/> Level 3 (CLP Forms) | | | | | | <input type="checkbox"/> UST / RG -411 | | | | | |
| <input type="checkbox"/> 3 Day EMERGENCY | | | | | | <input checked="" type="checkbox"/> STOPPED | | | | | | <input type="checkbox"/> TRRP Checklist | | | | | | | | | | | |
| TAT Starts Day received by Lab, if received by 5:00 pm | | | | | | | | | | | | | FED-EX / UPS: Tracking # | | | | | | | | | | |
| Relinquished by Sampler: | | | | | | | | | | | | | SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY | | | | | | | | | | |
| Date Time: 6-8-18/16:29 | | | | | | | | | | | | | Received By: [Signature] | | | | | | | | | | |
| Relinquished by: | | | | | | | | | | | | | Date Time: 6/14/18-15:30 | | | | | | | | | | |
| Date Time: | | | | | | | | | | | | | Received By: [Signature] | | | | | | | | | | |
| Custody Seal # | | | | | | | | | | | | | Preserved where applicable | | | | | | | | | | |
| On Ice | | | | | | | | | | | | | Cooler Temp | | | | | | | | | | |
| Thermom Corp Factor | | | | | | | | | | | | | | | | | | | | | | | |



Client: LT Environmental, Inc.

Date/ Time Received: 06/12/2018 10:45:00 AM

Work Order #: 588900

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

| | |
|---|-----|
| #1 *Temperature of cooler(s)? | 2.1 |
| #2 *Shipping container in good condition? | Yes |
| #3 *Samples received on ice? | Yes |
| #4 *Custody Seals intact on shipping container/ cooler? | N/A |
| #5 Custody Seals intact on sample bottles? | N/A |
| #6 *Custody Seals Signed and dated? | N/A |
| #7 *Chain of Custody present? | Yes |
| #8 Any missing/extra samples? | No |
| #9 Chain of Custody signed when relinquished/ received? | Yes |
| #10 Chain of Custody agrees with sample labels/matrix? | Yes |
| #11 Container label(s) legible and intact? | Yes |
| #12 Samples in proper container/ bottle? | Yes |
| #13 Samples properly preserved? | Yes |
| #14 Sample container(s) intact? | Yes |
| #15 Sufficient sample amount for indicated test(s)? | Yes |
| #16 All samples received within hold time? | Yes |
| #17 Subcontract of sample(s)? | No |
| #18 Water VOC samples have zero headspace? | N/A |

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:

Katie Lowe

Date: 06/12/2018

Checklist reviewed by:

Jessica Kramer

Date: 06/13/2018

Analytical Report 596050

for
LT Environmental, Inc.

Project Manager: Adrian Baker

BEU-149

17-OCT-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-18-27), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-18-17), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-13)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-18-17)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)

Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)

Xenco-Phoenix Mobile (EPA Lab Code: AZ00901): Arizona (AZM757)

Xenco-Atlanta (LELAP Lab ID #04176)

Xenco-Tampa: Florida (E87429)

Xenco-Lakeland: Florida (E84098)



17-OCT-18

Project Manager: **Adrian Baker**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **596050**

BEU-149

Project Address: Carlsbad, NM

Adrian Baker:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 596050. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 596050 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting XENCO Laboratories to serve your analytical needs. If you have any questions concerning this report, please feel free to contact us at any time.

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'.

Jessica Kramer

Project Assistant

Recipient of the Prestigious Small Business Administration Award of Excellence in 1994.

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Houston - Dallas - Midland - San Antonio - Phoenix - Oklahoma - Latin America

**Sample Cross Reference 596050****LT Environmental, Inc., Arvada, CO**

BEU-149

| Sample Id | Matrix | Date Collected | Sample Depth | Lab Sample Id |
|-----------|--------|----------------|--------------|---------------|
| PH01 | S | 08-10-18 14:00 | 13 ft | 596050-001 |
| PH02 | S | 08-10-18 10:50 | 13 ft | 596050-002 |
| SS06 | S | 08-13-18 15:25 | 6 In | 596050-003 |
| SS07 | S | 08-13-18 15:30 | 6 In | 596050-004 |
| SS08 | S | 08-13-18 15:10 | 6 In | 596050-005 |
| SS09 | S | 08-13-18 15:00 | 6 In | 596050-006 |
| SS01 A | S | 08-13-18 15:45 | 1 ft | 596050-007 |
| SS02 A | S | 08-13-18 15:35 | 1 ft | 596050-008 |
| SS04 A | S | 08-13-18 15:55 | 1 ft | 596050-009 |



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *BEU-149*

Project ID:

Work Order Number(s): 596050

Report Date: 17-OCT-18

Date Received: 08/16/2018

Sample receipt non conformances and comments:

PER CLIENTS EMAIL, CORRECTED SAMPLES 003-006 SAMPLE NAMES. JKR 10/08/18 - NEW VERSION GENERATED

PER CLIENTS EMAIL, CORRECTED SAMPLE 001 & 002 SAMPLE NAMES. JKR 10/17/18 - NEW VERSION GENERATED

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3061150 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3061174 BTEX by EPA 8021B

Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 596050-008,596050-007.



Certificate of Analysis Summary 596050

LT Environmental, Inc., Arvada, CO

Project Name: BEU-149

Project Id:

Contact: Adrian Baker

Project Location: Carlsbad, NM

Date Received in Lab: Thu Aug-16-18 02:25 pm

Report Date: 17-OCT-18

Project Manager: Jessica Kramer

| <i>Analysis Requested</i> | <i>Lab Id:</i> | 596050-001 | 596050-002 | 596050-003 | 596050-004 | 596050-005 | 596050-006 |
|------------------------------------|-------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| | <i>Field Id:</i> | PH01 | PH02 | SS06 | SS07 | SS08 | SS09 |
| | <i>Depth:</i> | 13- ft | 13- ft | 6- In | 6- In | 6- In | 6- In |
| | <i>Matrix:</i> | SOIL | SOIL | SOIL | SOIL | SOIL | SOIL |
| | <i>Sampled:</i> | Aug-10-18 14:00 | Aug-10-18 10:50 | Aug-13-18 15:25 | Aug-13-18 15:30 | Aug-13-18 15:10 | Aug-13-18 15:00 |
| BTEX by EPA 8021B | <i>Extracted:</i> | Aug-24-18 08:00 | Aug-24-18 08:00 | Aug-24-18 12:00 | Aug-24-18 12:00 | Aug-24-18 12:00 | Aug-24-18 12:00 |
| | <i>Analyzed:</i> | Aug-24-18 12:20 | Aug-24-18 12:40 | Aug-24-18 21:00 | Aug-24-18 21:21 | Aug-24-18 21:42 | Aug-24-18 22:03 |
| | <i>Units/RL:</i> | mg/kg RL | mg/kg RL | mg/kg RL | mg/kg RL | mg/kg RL | mg/kg RL |
| Benzene | | <0.00200 0.00200 | <0.00202 0.00202 | <0.00200 0.00200 | <0.00200 0.00200 | <0.00199 0.00199 | <0.00202 0.00202 |
| Toluene | | <0.00200 0.00200 | <0.00202 0.00202 | <0.00200 0.00200 | <0.00200 0.00200 | <0.00199 0.00199 | <0.00202 0.00202 |
| Ethylbenzene | | <0.00200 0.00200 | <0.00202 0.00202 | <0.00200 0.00200 | <0.00200 0.00200 | <0.00199 0.00199 | <0.00202 0.00202 |
| m,p-Xylenes | | <0.00399 0.00399 | <0.00403 0.00403 | <0.00401 0.00401 | <0.00399 0.00399 | <0.00398 0.00398 | <0.00403 0.00403 |
| o-Xylene | | <0.00200 0.00200 | <0.00202 0.00202 | <0.00200 0.00200 | <0.00200 0.00200 | <0.00199 0.00199 | <0.00202 0.00202 |
| Total Xylenes | | <0.00200 0.00200 | <0.00202 0.00202 | <0.00200 0.00200 | <0.00200 0.00200 | <0.00199 0.00199 | <0.00202 0.00202 |
| Total BTEX | | <0.00200 0.00200 | <0.00202 0.00202 | <0.00200 0.00200 | <0.00200 0.00200 | <0.00199 0.00199 | <0.00202 0.00202 |
| Inorganic Anions by EPA 300 | <i>Extracted:</i> | Aug-16-18 15:00 | Aug-16-18 15:00 | Aug-17-18 14:00 | Aug-17-18 14:00 | Aug-17-18 14:00 | Aug-17-18 14:00 |
| | <i>Analyzed:</i> | Aug-16-18 21:11 | Aug-16-18 21:17 | Aug-20-18 12:08 | Aug-17-18 18:14 | Aug-17-18 18:19 | Aug-17-18 18:25 |
| | <i>Units/RL:</i> | mg/kg RL | mg/kg RL | mg/kg RL | mg/kg RL | mg/kg RL | mg/kg RL |
| Chloride | | 173 4.96 | 258 5.00 | <5.00 5.00 | 142 4.95 | 38.4 4.96 | 6.25 5.00 |
| TPH by SW8015 Mod | <i>Extracted:</i> | Aug-17-18 17:00 | Aug-17-18 17:00 | Aug-17-18 17:00 | Aug-17-18 17:00 | Aug-17-18 17:00 | Aug-17-18 17:00 |
| | <i>Analyzed:</i> | Aug-17-18 18:41 | Aug-17-18 19:40 | Aug-17-18 20:00 | Aug-17-18 20:20 | Aug-17-18 20:39 | Aug-17-18 20:59 |
| | <i>Units/RL:</i> | mg/kg RL | mg/kg RL | mg/kg RL | mg/kg RL | mg/kg RL | mg/kg RL |
| Gasoline Range Hydrocarbons (GRO) | | <15.0 15.0 | <15.0 15.0 | <15.0 15.0 | <15.0 15.0 | <15.0 15.0 | <14.9 14.9 |
| Diesel Range Organics (DRO) | | <15.0 15.0 | <15.0 15.0 | <15.0 15.0 | <15.0 15.0 | <15.0 15.0 | <14.9 14.9 |
| Oil Range Hydrocarbons (ORO) | | <15.0 15.0 | <15.0 15.0 | <15.0 15.0 | <15.0 15.0 | <15.0 15.0 | <14.9 14.9 |
| Total TPH | | <15.0 15.0 | <15.0 15.0 | <15.0 15.0 | <15.0 15.0 | <15.0 15.0 | <14.9 14.9 |

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Houston - Dallas - San Antonio - Atlanta - Tampa - Boca Raton - Latin America - Odessa - Corpus Christi

Version: 1.9%

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 596050

LT Environmental, Inc., Arvada, CO

Project Name: BEU-149

Project Id:

Contact: Adrian Baker

Project Location: Carlsbad, NM

Date Received in Lab: Thu Aug-16-18 02:25 pm

Report Date: 17-OCT-18

Project Manager: Jessica Kramer

| <i>Analysis Requested</i> | <i>Lab Id:</i> | 596050-007 | 596050-008 | 596050-009 | | | |
|------------------------------------|-------------------|------------------|------------------|------------------|--|--|--|
| | <i>Field Id:</i> | SS01 A | SS02 A | SS04 A | | | |
| | <i>Depth:</i> | 1- ft | 1- ft | 1- ft | | | |
| | <i>Matrix:</i> | SOIL | SOIL | SOIL | | | |
| | <i>Sampled:</i> | Aug-13-18 15:45 | Aug-13-18 15:35 | Aug-13-18 15:55 | | | |
| BTEX by EPA 8021B | <i>Extracted:</i> | Aug-24-18 12:00 | Aug-24-18 12:00 | Aug-24-18 12:00 | | | |
| | <i>Analyzed:</i> | Aug-24-18 22:24 | Aug-25-18 03:15 | Aug-25-18 03:36 | | | |
| | <i>Units/RL:</i> | mg/kg RL | mg/kg RL | mg/kg RL | | | |
| Benzene | | <0.00201 0.00201 | <0.00199 0.00199 | <0.00202 0.00202 | | | |
| Toluene | | 0.0572 0.00201 | 0.0643 0.00199 | <0.00202 0.00202 | | | |
| Ethylbenzene | | 0.121 0.00201 | 0.175 0.00199 | <0.00202 0.00202 | | | |
| m,p-Xylenes | | 0.497 0.00402 | 0.705 0.00398 | <0.00404 0.00404 | | | |
| o-Xylene | | 0.319 0.00201 | 0.339 0.00199 | <0.00202 0.00202 | | | |
| Total Xylenes | | 0.816 0.00201 | 1.04 0.00199 | <0.00202 0.00202 | | | |
| Total BTEX | | 0.994 0.00201 | 1.28 0.00199 | <0.00202 0.00202 | | | |
| Inorganic Anions by EPA 300 | <i>Extracted:</i> | Aug-17-18 14:00 | Aug-17-18 14:00 | Aug-17-18 14:00 | | | |
| | <i>Analyzed:</i> | Aug-17-18 18:30 | Aug-17-18 18:46 | Aug-17-18 18:52 | | | |
| | <i>Units/RL:</i> | mg/kg RL | mg/kg RL | mg/kg RL | | | |
| Chloride | | 222 4.95 | <4.96 4.96 | 217 4.97 | | | |
| TPH by SW8015 Mod | <i>Extracted:</i> | Aug-17-18 17:00 | Aug-17-18 17:00 | Aug-17-18 17:00 | | | |
| | <i>Analyzed:</i> | Aug-18-18 11:07 | Aug-18-18 11:26 | Aug-17-18 21:57 | | | |
| | <i>Units/RL:</i> | mg/kg RL | mg/kg RL | mg/kg RL | | | |
| Gasoline Range Hydrocarbons (GRO) | | 2490 74.9 | 1840 74.9 | <15.0 15.0 | | | |
| Diesel Range Organics (DRO) | | 9130 74.9 | 8580 74.9 | 45.6 15.0 | | | |
| Oil Range Hydrocarbons (ORO) | | <74.9 74.9 | <74.9 74.9 | <15.0 15.0 | | | |
| Total TPH | | 11600 74.9 | 10400 74.9 | 45.6 15.0 | | | |

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use. The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories. XENCO Laboratories assumes no responsibility and makes no warranty to the end use of the data hereby presented. Our liability is limited to the amount invoiced for this work order unless otherwise agreed to in writing.

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Version: 1.9%

Jessica Kramer
Project Assistant



Certificate of Analytical Results 596050



LT Environmental, Inc., Arvada, CO

BEU-149

Sample Id: **PH01**
 Lab Sample Id: 596050-001

Matrix: Soil
 Date Collected: 08.10.18 14.00

Date Received: 08.16.18 14.25
 Sample Depth: 13 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: SCM

Analyst: SCM

Seq Number: 3060339

Date Prep: 08.16.18 15.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride | 16887-00-6 | 173 | 4.96 | mg/kg | 08.16.18 21.11 | | 1 |

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3060519

Date Prep: 08.17.18 17.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 08.17.18 18.41 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 08.17.18 18.41 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 08.17.18 18.41 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 08.17.18 18.41 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3 | 89 | % | 70-135 | 08.17.18 18.41 | |
| o-Terphenyl | 84-15-1 | 95 | % | 70-135 | 08.17.18 18.41 | |



Certificate of Analytical Results 596050



LT Environmental, Inc., Arvada, CO

BEU-149

Sample Id: **PH01**
Lab Sample Id: 596050-001

Matrix: Soil
Date Collected: 08.10.18 14.00

Date Received: 08.16.18 14.25
Sample Depth: 13 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 08.24.18 08.00

Basis: Wet Weight

Seq Number: 3061150

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 08.24.18 12.20 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 08.24.18 12.20 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 08.24.18 12.20 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 08.24.18 12.20 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 08.24.18 12.20 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 08.24.18 12.20 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 08.24.18 12.20 | U | 1 |
| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag | |
| 1,4-Difluorobenzene | 540-36-3 | 97 | % | 70-130 | 08.24.18 12.20 | | |
| 4-Bromofluorobenzene | 460-00-4 | 113 | % | 70-130 | 08.24.18 12.20 | | |



Certificate of Analytical Results 596050



LT Environmental, Inc., Arvada, CO

BEU-149

Sample Id: **PH02** Matrix: Soil Date Received: 08.16.18 14.25
 Lab Sample Id: 596050-002 Date Collected: 08.10.18 10.50 Sample Depth: 13 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: SCM % Moisture:
 Analyst: SCM Date Prep: 08.16.18 15.00 Basis: Wet Weight
 Seq Number: 3060339

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride | 16887-00-6 | 258 | 5.00 | mg/kg | 08.16.18 21.17 | | 1 |

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 08.17.18 17.00 Basis: Wet Weight
 Seq Number: 3060519

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 08.17.18 19.40 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 08.17.18 19.40 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 08.17.18 19.40 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 08.17.18 19.40 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3 | 89 | % | 70-135 | 08.17.18 19.40 | |
| o-Terphenyl | 84-15-1 | 94 | % | 70-135 | 08.17.18 19.40 | |



Certificate of Analytical Results 596050



LT Environmental, Inc., Arvada, CO

BEU-149

Sample Id: **PH02**
Lab Sample Id: 596050-002

Matrix: Soil
Date Collected: 08.10.18 10.50

Date Received: 08.16.18 14.25
Sample Depth: 13 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 08.24.18 08.00

Basis: Wet Weight

Seq Number: 3061150

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 08.24.18 12.40 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 08.24.18 12.40 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 08.24.18 12.40 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 08.24.18 12.40 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 08.24.18 12.40 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 08.24.18 12.40 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 08.24.18 12.40 | U | 1 |
| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag | |
| 1,4-Difluorobenzene | 540-36-3 | 97 | % | 70-130 | 08.24.18 12.40 | | |
| 4-Bromofluorobenzene | 460-00-4 | 94 | % | 70-130 | 08.24.18 12.40 | | |



Certificate of Analytical Results 596050



LT Environmental, Inc., Arvada, CO

BEU-149

Sample Id: **SS06**
Lab Sample Id: 596050-003

Matrix: Soil
Date Collected: 08.13.18 15.25

Date Received: 08.16.18 14.25
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: SCM

Analyst: SCM

Seq Number: 3060509

Date Prep: 08.17.18 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride | 16887-00-6 | <5.00 | 5.00 | mg/kg | 08.20.18 12.08 | U | 1 |

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3060519

Date Prep: 08.17.18 17.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 08.17.18 20.00 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 08.17.18 20.00 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 08.17.18 20.00 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 08.17.18 20.00 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3 | 90 | % | 70-135 | 08.17.18 20.00 | |
| o-Terphenyl | 84-15-1 | 97 | % | 70-135 | 08.17.18 20.00 | |



Certificate of Analytical Results 596050



LT Environmental, Inc., Arvada, CO

BEU-149

Sample Id: **SS06**
Lab Sample Id: 596050-003

Matrix: Soil
Date Collected: 08.13.18 15.25

Date Received: 08.16.18 14.25
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 08.24.18 12.00

Basis: Wet Weight

Seq Number: 3061174

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 08.24.18 21.00 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 08.24.18 21.00 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 08.24.18 21.00 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00401 | 0.00401 | mg/kg | 08.24.18 21.00 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 08.24.18 21.00 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 08.24.18 21.00 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 08.24.18 21.00 | U | 1 |
| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag | |
| 4-Bromofluorobenzene | 460-00-4 | 99 | % | 70-130 | 08.24.18 21.00 | | |
| 1,4-Difluorobenzene | 540-36-3 | 100 | % | 70-130 | 08.24.18 21.00 | | |



Certificate of Analytical Results 596050



LT Environmental, Inc., Arvada, CO

BEU-149

Sample Id: **SS07**
Lab Sample Id: 596050-004

Matrix: Soil
Date Collected: 08.13.18 15.30

Date Received: 08.16.18 14.25
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 08.17.18 14.00

Basis: Wet Weight

Seq Number: 3060509

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride | 16887-00-6 | 142 | 4.95 | mg/kg | 08.17.18 18.14 | | 1 |

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 08.17.18 17.00

Basis: Wet Weight

Seq Number: 3060519

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 08.17.18 20.20 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 08.17.18 20.20 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 08.17.18 20.20 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 08.17.18 20.20 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3 | 87 | % | 70-135 | 08.17.18 20.20 | |
| o-Terphenyl | 84-15-1 | 90 | % | 70-135 | 08.17.18 20.20 | |



Certificate of Analytical Results 596050



LT Environmental, Inc., Arvada, CO

BEU-149

Sample Id: **SS07**
Lab Sample Id: 596050-004

Matrix: Soil
Date Collected: 08.13.18 15.30

Date Received: 08.16.18 14.25
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 08.24.18 12.00

Basis: Wet Weight

Seq Number: 3061174

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene | 71-43-2 | <0.00200 | 0.00200 | mg/kg | 08.24.18 21.21 | U | 1 |
| Toluene | 108-88-3 | <0.00200 | 0.00200 | mg/kg | 08.24.18 21.21 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00200 | 0.00200 | mg/kg | 08.24.18 21.21 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00399 | 0.00399 | mg/kg | 08.24.18 21.21 | U | 1 |
| o-Xylene | 95-47-6 | <0.00200 | 0.00200 | mg/kg | 08.24.18 21.21 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00200 | 0.00200 | mg/kg | 08.24.18 21.21 | U | 1 |
| Total BTEX | | <0.00200 | 0.00200 | mg/kg | 08.24.18 21.21 | U | 1 |
| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag | |
| 1,4-Difluorobenzene | 540-36-3 | 96 | % | 70-130 | 08.24.18 21.21 | | |
| 4-Bromofluorobenzene | 460-00-4 | 98 | % | 70-130 | 08.24.18 21.21 | | |



Certificate of Analytical Results 596050



LT Environmental, Inc., Arvada, CO

BEU-149

Sample Id: **SS08**
 Lab Sample Id: 596050-005

Matrix: Soil
 Date Collected: 08.13.18 15.10

Date Received: 08.16.18 14.25
 Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 08.17.18 14.00

Basis: Wet Weight

Seq Number: 3060509

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride | 16887-00-6 | 38.4 | 4.96 | mg/kg | 08.17.18 18.19 | | 1 |

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 08.17.18 17.00

Basis: Wet Weight

Seq Number: 3060519

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 08.17.18 20.39 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <15.0 | 15.0 | mg/kg | 08.17.18 20.39 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 08.17.18 20.39 | U | 1 |
| Total TPH | PHC635 | <15.0 | 15.0 | mg/kg | 08.17.18 20.39 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3 | 88 | % | 70-135 | 08.17.18 20.39 | |
| o-Terphenyl | 84-15-1 | 94 | % | 70-135 | 08.17.18 20.39 | |



Certificate of Analytical Results 596050



LT Environmental, Inc., Arvada, CO

BEU-149

Sample Id: **SS08**
Lab Sample Id: 596050-005

Matrix: Soil
Date Collected: 08.13.18 15.10

Date Received: 08.16.18 14.25
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 08.24.18 12.00

Basis: Wet Weight

Seq Number: 3061174

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 08.24.18 21.42 | U | 1 |
| Toluene | 108-88-3 | <0.00199 | 0.00199 | mg/kg | 08.24.18 21.42 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00199 | 0.00199 | mg/kg | 08.24.18 21.42 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00398 | 0.00398 | mg/kg | 08.24.18 21.42 | U | 1 |
| o-Xylene | 95-47-6 | <0.00199 | 0.00199 | mg/kg | 08.24.18 21.42 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00199 | 0.00199 | mg/kg | 08.24.18 21.42 | U | 1 |
| Total BTEX | | <0.00199 | 0.00199 | mg/kg | 08.24.18 21.42 | U | 1 |
| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag | |
| 4-Bromofluorobenzene | 460-00-4 | 101 | % | 70-130 | 08.24.18 21.42 | | |
| 1,4-Difluorobenzene | 540-36-3 | 101 | % | 70-130 | 08.24.18 21.42 | | |



Certificate of Analytical Results 596050



LT Environmental, Inc., Arvada, CO

BEU-149

Sample Id: **SS09**
Lab Sample Id: 596050-006

Matrix: Soil
Date Collected: 08.13.18 15.00

Date Received: 08.16.18 14.25
Sample Depth: 6 In

Analytical Method: Inorganic Anions by EPA 300

Tech: SCM

Analyst: SCM

Seq Number: 3060509

Date Prep: 08.17.18 14.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride | 16887-00-6 | 6.25 | 5.00 | mg/kg | 08.17.18 18.25 | | 1 |

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3060519

Date Prep: 08.17.18 17.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <14.9 | 14.9 | mg/kg | 08.17.18 20.59 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | <14.9 | 14.9 | mg/kg | 08.17.18 20.59 | U | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <14.9 | 14.9 | mg/kg | 08.17.18 20.59 | U | 1 |
| Total TPH | PHC635 | <14.9 | 14.9 | mg/kg | 08.17.18 20.59 | U | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3 | 90 | % | 70-135 | 08.17.18 20.59 | |
| o-Terphenyl | 84-15-1 | 95 | % | 70-135 | 08.17.18 20.59 | |



Certificate of Analytical Results 596050



LT Environmental, Inc., Arvada, CO

BEU-149

Sample Id: **SS09**
Lab Sample Id: 596050-006

Matrix: Soil
Date Collected: 08.13.18 15.00

Date Received: 08.16.18 14.25
Sample Depth: 6 In

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 08.24.18 12.00

Basis: Wet Weight

Seq Number: 3061174

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 08.24.18 22.03 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 08.24.18 22.03 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 08.24.18 22.03 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00403 | 0.00403 | mg/kg | 08.24.18 22.03 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 08.24.18 22.03 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 08.24.18 22.03 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 08.24.18 22.03 | U | 1 |
| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag | |
| 1,4-Difluorobenzene | 540-36-3 | 98 | % | 70-130 | 08.24.18 22.03 | | |
| 4-Bromofluorobenzene | 460-00-4 | 98 | % | 70-130 | 08.24.18 22.03 | | |



Certificate of Analytical Results 596050



LT Environmental, Inc., Arvada, CO

BEU-149

Sample Id: **SS01 A**
Lab Sample Id: 596050-007

Matrix: Soil
Date Collected: 08.13.18 15.45

Date Received: 08.16.18 14.25
Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 08.17.18 14.00

Basis: Wet Weight

Seq Number: 3060509

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride | 16887-00-6 | 222 | 4.95 | mg/kg | 08.17.18 18.30 | | 1 |

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 08.17.18 17.00

Basis: Wet Weight

Seq Number: 3060519

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------------------------------|------------|--------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | 2490 | 74.9 | mg/kg | 08.18.18 11.07 | | 5 |
| Diesel Range Organics (DRO) | C10C28DRO | 9130 | 74.9 | mg/kg | 08.18.18 11.07 | | 5 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <74.9 | 74.9 | mg/kg | 08.18.18 11.07 | U | 5 |
| Total TPH | PHC635 | 11600 | 74.9 | mg/kg | 08.18.18 11.07 | | 5 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3 | 119 | % | 70-135 | 08.18.18 11.07 | |
| o-Terphenyl | 84-15-1 | 129 | % | 70-135 | 08.18.18 11.07 | |



Certificate of Analytical Results 596050



LT Environmental, Inc., Arvada, CO

BEU-149

Sample Id: **SS01 A**
Lab Sample Id: 596050-007

Matrix: Soil
Date Collected: 08.13.18 15.45

Date Received: 08.16.18 14.25
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALJ

Analyst: ALJ

Seq Number: 3061174

Date Prep: 08.24.18 12.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|----------------------|-------------|---------------|---------|-------|----------------|----------------|------|
| Benzene | 71-43-2 | <0.00201 | 0.00201 | mg/kg | 08.24.18 22.24 | U | 1 |
| Toluene | 108-88-3 | 0.0572 | 0.00201 | mg/kg | 08.24.18 22.24 | | 1 |
| Ethylbenzene | 100-41-4 | 0.121 | 0.00201 | mg/kg | 08.24.18 22.24 | | 1 |
| m,p-Xylenes | 179601-23-1 | 0.497 | 0.00402 | mg/kg | 08.24.18 22.24 | | 1 |
| o-Xylene | 95-47-6 | 0.319 | 0.00201 | mg/kg | 08.24.18 22.24 | | 1 |
| Total Xylenes | 1330-20-7 | 0.816 | 0.00201 | mg/kg | 08.24.18 22.24 | | 1 |
| Total BTEX | | 0.994 | 0.00201 | mg/kg | 08.24.18 22.24 | | 1 |
| | | | | | | | |
| Surrogate | Cas Number | % Recovery | | Units | Limits | Analysis Date | Flag |
| 4-Bromofluorobenzene | 460-00-4 | 470 | | % | 70-130 | 08.24.18 22.24 | ** |
| 1,4-Difluorobenzene | 540-36-3 | 77 | | % | 70-130 | 08.24.18 22.24 | |



Certificate of Analytical Results 596050

LT Environmental, Inc., Arvada, CO

BEU-149

Sample Id: **SS02 A**
 Lab Sample Id: 596050-008

Matrix: Soil
 Date Collected: 08.13.18 15.35

Date Received: 08.16.18 14.25
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: SCM

Analyst: SCM

Seq Number: 3060509

Prep Method: E300P

% Moisture:

Date Prep: 08.17.18 14.00

Basis: Wet Weight

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride | 16887-00-6 | <4.96 | 4.96 | mg/kg | 08.17.18 18.46 | U | 1 |

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3060519

Prep Method: TX1005P

% Moisture:

Date Prep: 08.17.18 17.00

Basis: Wet Weight

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|--|------------|--------------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | 1840 | 74.9 | mg/kg | 08.18.18 11.26 | | 5 |
| Diesel Range Organics (DRO) | C10C28DRO | 8580 | 74.9 | mg/kg | 08.18.18 11.26 | | 5 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <74.9 | 74.9 | mg/kg | 08.18.18 11.26 | U | 5 |
| Total TPH | PHC635 | 10400 | 74.9 | mg/kg | 08.18.18 11.26 | | 5 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3 | 124 | % | 70-135 | 08.18.18 11.26 | |
| o-Terphenyl | 84-15-1 | 127 | % | 70-135 | 08.18.18 11.26 | |



Certificate of Analytical Results 596050



LT Environmental, Inc., Arvada, CO

BEU-149

Sample Id: **SS02 A**
Lab Sample Id: 596050-008

Matrix: Soil
Date Collected: 08.13.18 15.35

Date Received: 08.16.18 14.25
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 08.24.18 12.00

Basis: Wet Weight

Seq Number: 3061174

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene | 71-43-2 | <0.00199 | 0.00199 | mg/kg | 08.25.18 03.15 | U | 1 |
| Toluene | 108-88-3 | 0.0643 | 0.00199 | mg/kg | 08.25.18 03.15 | | 1 |
| Ethylbenzene | 100-41-4 | 0.175 | 0.00199 | mg/kg | 08.25.18 03.15 | | 1 |
| m,p-Xylenes | 179601-23-1 | 0.705 | 0.00398 | mg/kg | 08.25.18 03.15 | | 1 |
| o-Xylene | 95-47-6 | 0.339 | 0.00199 | mg/kg | 08.25.18 03.15 | | 1 |
| Total Xylenes | 1330-20-7 | 1.04 | 0.00199 | mg/kg | 08.25.18 03.15 | | 1 |
| Total BTEX | | 1.28 | 0.00199 | mg/kg | 08.25.18 03.15 | | 1 |
| | | | | | | | |
| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag | |
| 4-Bromofluorobenzene | 460-00-4 | 687 | % | 70-130 | 08.25.18 03.15 | ** | |
| 1,4-Difluorobenzene | 540-36-3 | 84 | % | 70-130 | 08.25.18 03.15 | | |



Certificate of Analytical Results 596050



LT Environmental, Inc., Arvada, CO

BEU-149

Sample Id: **SS04 A**
 Lab Sample Id: 596050-009

Matrix: Soil
 Date Collected: 08.13.18 15.55

Date Received: 08.16.18 14.25
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 08.17.18 14.00

Basis: Wet Weight

Seq Number: 3060509

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|-----------|------------|--------|------|-------|----------------|------|-----|
| Chloride | 16887-00-6 | 217 | 4.97 | mg/kg | 08.17.18 18.52 | | 1 |

Analytical Method: TPH by SW8015 Mod

Prep Method: TX1005P

Tech: ARM

% Moisture:

Analyst: ARM

Date Prep: 08.17.18 17.00

Basis: Wet Weight

Seq Number: 3060519

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|------------------------------------|------------|-------------|------|-------|----------------|------|-----|
| Gasoline Range Hydrocarbons (GRO) | PHC610 | <15.0 | 15.0 | mg/kg | 08.17.18 21.57 | U | 1 |
| Diesel Range Organics (DRO) | C10C28DRO | 45.6 | 15.0 | mg/kg | 08.17.18 21.57 | | 1 |
| Oil Range Hydrocarbons (ORO) | PHCG2835 | <15.0 | 15.0 | mg/kg | 08.17.18 21.57 | U | 1 |
| Total TPH | PHC635 | 45.6 | 15.0 | mg/kg | 08.17.18 21.57 | | 1 |

| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag |
|----------------|------------|------------|-------|--------|----------------|------|
| 1-Chlorooctane | 111-85-3 | 93 | % | 70-135 | 08.17.18 21.57 | |
| o-Terphenyl | 84-15-1 | 98 | % | 70-135 | 08.17.18 21.57 | |



Certificate of Analytical Results 596050



LT Environmental, Inc., Arvada, CO

BEU-149

Sample Id: **SS04 A**
Lab Sample Id: 596050-009

Matrix: Soil
Date Collected: 08.13.18 15.55

Date Received: 08.16.18 14.25
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 08.24.18 12.00

Basis: Wet Weight

Seq Number: 3061174

| Parameter | Cas Number | Result | RL | Units | Analysis Date | Flag | Dil |
|----------------------|-------------------|-------------------|--------------|---------------|----------------------|-------------|-----|
| Benzene | 71-43-2 | <0.00202 | 0.00202 | mg/kg | 08.25.18 03.36 | U | 1 |
| Toluene | 108-88-3 | <0.00202 | 0.00202 | mg/kg | 08.25.18 03.36 | U | 1 |
| Ethylbenzene | 100-41-4 | <0.00202 | 0.00202 | mg/kg | 08.25.18 03.36 | U | 1 |
| m,p-Xylenes | 179601-23-1 | <0.00404 | 0.00404 | mg/kg | 08.25.18 03.36 | U | 1 |
| o-Xylene | 95-47-6 | <0.00202 | 0.00202 | mg/kg | 08.25.18 03.36 | U | 1 |
| Total Xylenes | 1330-20-7 | <0.00202 | 0.00202 | mg/kg | 08.25.18 03.36 | U | 1 |
| Total BTEX | | <0.00202 | 0.00202 | mg/kg | 08.25.18 03.36 | U | 1 |
| Surrogate | Cas Number | % Recovery | Units | Limits | Analysis Date | Flag | |
| 4-Bromofluorobenzene | 460-00-4 | 83 | % | 70-130 | 08.25.18 03.36 | | |
| 1,4-Difluorobenzene | 540-36-3 | 108 | % | 70-130 | 08.25.18 03.36 | | |



Flagging Criteria



- X** In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.
- B** A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.
- D** The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.
- E** The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
- F** RPD exceeded lab control limits.
- J** The target analyte was positively identified below the quantitation limit and above the detection limit.
- U** Analyte was not detected.
- L** The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.
- H** The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.
- K** Sample analyzed outside of recommended hold time.
- JN** A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample Detection Limit **LOD** Limit of Detection

PQL Practical Quantitation Limit **MQL** Method Quantitation Limit **LOQ** Limit of Quantitation

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

BKS/LCS Blank Spike/Laboratory Control Sample **BKSD/LCSD** Blank Spike Duplicate/Laboratory Control Sample Duplicate

MD/SD Method Duplicate/Sample Duplicate **MS** Matrix Spike **MSD:** Matrix Spike Duplicate

+ NELAC certification not offered for this compound.

* (Next to analyte name or method description) = Outside XENCO's scope of NELAC accreditation



LT Environmental, Inc.

BEU-149

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3060339

MB Sample Id: 7660597-1-BLK

Matrix: Solid

LCS Sample Id: 7660597-1-BKS

Prep Method: E300P

Date Prep: 08.16.18

LCSD Sample Id: 7660597-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|-----------|-----------|--------------|------------|----------|-------------|-----------|--------|------|-----------|-------|----------------|------|
| Chloride | <5.00 | 250 | 248 | 99 | 250 | 100 | 90-110 | 1 | 20 | mg/kg | 08.16.18 18:38 | |

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3060509

MB Sample Id: 7660662-1-BLK

Matrix: Solid

LCS Sample Id: 7660662-1-BKS

Prep Method: E300P

Date Prep: 08.17.18

LCSD Sample Id: 7660662-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|-----------|-----------|--------------|------------|----------|-------------|-----------|--------|------|-----------|-------|----------------|------|
| Chloride | <4.99 | 250 | 246 | 98 | 249 | 100 | 90-110 | 1 | 20 | mg/kg | 08.17.18 17:46 | |

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3060339

Parent Sample Id: 595900-006

Matrix: Soil

MS Sample Id: 595900-006 S

Prep Method: E300P

Date Prep: 08.16.18

MSD Sample Id: 595900-006 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|-----------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Chloride | <4.95 | 248 | 258 | 104 | 258 | 104 | 90-110 | 0 | 20 | mg/kg | 08.16.18 18:54 | |

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3060339

Parent Sample Id: 596049-001

Matrix: Soil

MS Sample Id: 596049-001 S

Prep Method: E300P

Date Prep: 08.16.18

MSD Sample Id: 596049-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|-----------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Chloride | 169 | 248 | 409 | 97 | 414 | 99 | 90-110 | 1 | 20 | mg/kg | 08.16.18 20:11 | |

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3060509

Parent Sample Id: 596050-003

Matrix: Soil

MS Sample Id: 596050-003 S

Prep Method: E300P

Date Prep: 08.17.18

MSD Sample Id: 596050-003 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|-----------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Chloride | <5.00 | 250 | 258 | 103 | 260 | 104 | 90-110 | 1 | 20 | mg/kg | 08.17.18 18:03 | |

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



LT Environmental, Inc.

BEU-149

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3060509

Parent Sample Id: 596183-004

Matrix: Soil

MS Sample Id: 596183-004 S

Prep Method: E300P

Date Prep: 08.17.18

MSD Sample Id: 596183-004 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|-----------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Chloride | <4.96 | 248 | 248 | 100 | 251 | 101 | 90-110 | 1 | 20 | mg/kg | 08.17.18 19:19 | |

Analytical Method: TPH by SW8015 Mod

Seq Number: 3060519

MB Sample Id: 7660707-1-BLK

Matrix: Solid

LCS Sample Id: 7660707-1-BKS

Prep Method: TX1005P

Date Prep: 08.17.18

LCSD Sample Id: 7660707-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|-----------------------------------|-----------|--------------|------------|----------|-------------|-----------|--------|------|-----------|-------|----------------|------|
| Gasoline Range Hydrocarbons (GRO) | <15.0 | 1000 | 845 | 85 | 863 | 86 | 70-135 | 2 | 20 | mg/kg | 08.17.18 18:00 | |
| Diesel Range Organics (DRO) | <15.0 | 1000 | 871 | 87 | 908 | 91 | 70-135 | 4 | 20 | mg/kg | 08.17.18 18:00 | |

Surrogate

| | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|----------------|---------|---------|----------|----------|-----------|-----------|--------|-------|----------------|
| 1-Chlorooctane | 87 | | 119 | | 120 | | 70-135 | % | 08.17.18 18:00 |
| o-Terphenyl | 93 | | 95 | | 95 | | 70-135 | % | 08.17.18 18:00 |

Analytical Method: TPH by SW8015 Mod

Seq Number: 3060519

Parent Sample Id: 596050-001

Matrix: Soil

MS Sample Id: 596050-001 S

Prep Method: TX1005P

Date Prep: 08.17.18

MSD Sample Id: 596050-001 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|-----------------------------------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Gasoline Range Hydrocarbons (GRO) | <15.0 | 998 | 865 | 87 | 876 | 88 | 70-135 | 1 | 20 | mg/kg | 08.17.18 19:01 | |
| Diesel Range Organics (DRO) | <15.0 | 998 | 884 | 89 | 928 | 93 | 70-135 | 5 | 20 | mg/kg | 08.17.18 19:01 | |

Surrogate

| | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|----------------|---------|---------|----------|----------|--------|-------|----------------|
| 1-Chlorooctane | 122 | | 124 | | 70-135 | % | 08.17.18 19:01 |
| o-Terphenyl | 99 | | 102 | | 70-135 | % | 08.17.18 19:01 |

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
 A = Parent Result
 C = MS/LCS Result
 E = MSD/LCSD Result

MS = Matrix Spike
 B = Spike Added
 D = MSD/LCSD % Rec



LT Environmental, Inc.

BEU-149

Analytical Method: BTEX by EPA 8021B

Seq Number: 3061150

MB Sample Id: 7661091-1-BLK

Matrix: Solid

LCS Sample Id: 7661091-1-BKS

Prep Method: SW5030B

Date Prep: 08.24.18

LCSD Sample Id: 7661091-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|--------------|-----------|--------------|------------|----------|-------------|-----------|--------|------|-----------|-------|----------------|------|
| Benzene | <0.00199 | 0.0996 | 0.0902 | 91 | 0.0900 | 90 | 70-130 | 0 | 35 | mg/kg | 08.24.18 07:57 | |
| Toluene | <0.00199 | 0.0996 | 0.0861 | 86 | 0.0863 | 86 | 70-130 | 0 | 35 | mg/kg | 08.24.18 07:57 | |
| Ethylbenzene | <0.00199 | 0.0996 | 0.0980 | 98 | 0.0991 | 99 | 70-130 | 1 | 35 | mg/kg | 08.24.18 07:57 | |
| m,p-Xylenes | <0.00398 | 0.199 | 0.207 | 104 | 0.211 | 106 | 70-130 | 2 | 35 | mg/kg | 08.24.18 07:57 | |
| o-Xylene | <0.00199 | 0.0996 | 0.101 | 101 | 0.104 | 104 | 70-130 | 3 | 35 | mg/kg | 08.24.18 07:57 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|----------------------|---------|---------|----------|----------|-----------|-----------|--------|-------|----------------|
| 1,4-Difluorobenzene | 100 | | 104 | | 103 | | 70-130 | % | 08.24.18 07:57 |
| 4-Bromofluorobenzene | 92 | | 109 | | 105 | | 70-130 | % | 08.24.18 07:57 |

Analytical Method: BTEX by EPA 8021B

Seq Number: 3061174

MB Sample Id: 7661103-1-BLK

Matrix: Solid

LCS Sample Id: 7661103-1-BKS

Prep Method: SW5030B

Date Prep: 08.24.18

LCSD Sample Id: 7661103-1-BSD

| Parameter | MB Result | Spike Amount | LCS Result | LCS %Rec | LCSD Result | LCSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|--------------|-----------|--------------|------------|----------|-------------|-----------|--------|------|-----------|-------|----------------|------|
| Benzene | <0.00202 | 0.101 | 0.0962 | 95 | 0.0951 | 95 | 70-130 | 1 | 35 | mg/kg | 08.24.18 18:56 | |
| Toluene | <0.00202 | 0.101 | 0.0916 | 91 | 0.0926 | 93 | 70-130 | 1 | 35 | mg/kg | 08.24.18 18:56 | |
| Ethylbenzene | <0.00202 | 0.101 | 0.104 | 103 | 0.107 | 107 | 70-130 | 3 | 35 | mg/kg | 08.24.18 18:56 | |
| m,p-Xylenes | <0.00403 | 0.202 | 0.226 | 112 | 0.235 | 118 | 70-130 | 4 | 35 | mg/kg | 08.24.18 18:56 | |
| o-Xylene | <0.00202 | 0.101 | 0.106 | 105 | 0.109 | 109 | 70-130 | 3 | 35 | mg/kg | 08.24.18 18:56 | |

| Surrogate | MB %Rec | MB Flag | LCS %Rec | LCS Flag | LCSD %Rec | LCSD Flag | Limits | Units | Analysis Date |
|----------------------|---------|---------|----------|----------|-----------|-----------|--------|-------|----------------|
| 1,4-Difluorobenzene | 103 | | 111 | | 114 | | 70-130 | % | 08.24.18 18:56 |
| 4-Bromofluorobenzene | 98 | | 104 | | 112 | | 70-130 | % | 08.24.18 18:56 |

Analytical Method: BTEX by EPA 8021B

Seq Number: 3061174

Parent Sample Id: 596050-003

Matrix: Soil

MS Sample Id: 596050-003 S

Prep Method: SW5030B

Date Prep: 08.24.18

MSD Sample Id: 596050-003 SD

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | MSD Result | MSD %Rec | Limits | %RPD | RPD Limit | Units | Analysis Date | Flag |
|--------------|---------------|--------------|-----------|---------|------------|----------|--------|------|-----------|-------|----------------|------|
| Benzene | <0.00200 | 0.100 | 0.0914 | 91 | 0.0919 | 91 | 70-130 | 1 | 35 | mg/kg | 08.24.18 19:37 | |
| Toluene | <0.00200 | 0.100 | 0.0852 | 85 | 0.0874 | 87 | 70-130 | 3 | 35 | mg/kg | 08.24.18 19:37 | |
| Ethylbenzene | <0.00200 | 0.100 | 0.0911 | 91 | 0.0939 | 93 | 70-130 | 3 | 35 | mg/kg | 08.24.18 19:37 | |
| m,p-Xylenes | <0.00401 | 0.200 | 0.203 | 102 | 0.200 | 100 | 70-130 | 1 | 35 | mg/kg | 08.24.18 19:37 | |
| o-Xylene | <0.00200 | 0.100 | 0.0921 | 92 | 0.0918 | 91 | 70-130 | 0 | 35 | mg/kg | 08.24.18 19:37 | |

| Surrogate | MS %Rec | MS Flag | MSD %Rec | MSD Flag | Limits | Units | Analysis Date |
|----------------------|---------|---------|----------|----------|--------|-------|----------------|
| 1,4-Difluorobenzene | 108 | | 105 | | 70-130 | % | 08.24.18 19:37 |
| 4-Bromofluorobenzene | 107 | | 103 | | 70-130 | % | 08.24.18 19:37 |

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

[D] = 100*(C-A) / B
RPD = 200* |(C-E) / (C+E)|
[D] = 100 * (C) / [B]
Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



LT Environmental, Inc.

BEU-149

Analytical Method: BTEX by EPA 8021B

Seq Number: 3061150

Parent Sample Id: 596792-001

Matrix: Soil

MS Sample Id: 596792-001 S

Prep Method: SW5030B

Date Prep: 08.24.18

| Parameter | Parent Result | Spike Amount | MS Result | MS %Rec | Limits | Units | Analysis Date | Flag |
|--------------|---------------|--------------|-----------|---------|--------|-------|----------------|------|
| Benzene | <0.00204 | 0.102 | 0.0761 | 75 | 70-130 | mg/kg | 08.24.18 08:40 | |
| Toluene | <0.00204 | 0.102 | 0.0593 | 58 | 70-130 | mg/kg | 08.24.18 08:40 | X |
| Ethylbenzene | <0.00204 | 0.102 | 0.0708 | 69 | 70-130 | mg/kg | 08.24.18 08:40 | X |
| m,p-Xylenes | <0.00409 | 0.204 | 0.133 | 65 | 70-130 | mg/kg | 08.24.18 08:40 | X |
| o-Xylene | <0.00204 | 0.102 | 0.0760 | 75 | 70-130 | mg/kg | 08.24.18 08:40 | |

| Surrogate | MS %Rec | MS Flag | Limits | Units | Analysis Date |
|----------------------|---------|---------|--------|-------|----------------|
| 1,4-Difluorobenzene | 103 | | 70-130 | % | 08.24.18 08:40 |
| 4-Bromofluorobenzene | 106 | | 70-130 | % | 08.24.18 08:40 |

MS/MSD Percent Recovery
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

LCS = Laboratory Control Sample
A = Parent Result
C = MS/LCS Result
E = MSD/LCSD Result

MS = Matrix Spike
B = Spike Added
D = MSD/LCSD % Rec



Setting the Standard since 1990

Stafford, TX (281) 240-4200
Dallas, TX (214) 902-0300

El Paso, TX (915) 585-3443
Lubbock, TX (806) 794-1296

Midland, TX (432) 704-5440
San Antonio, TX (210) 509-3334

Phoenix, AZ (480) 355-0900
Service Center - Baton Rouge

Service Center- Amarillo, TX (806)678-4514
Service Center- Hobbs, NM (575) 392-7550

CHAIN OF CUSTODY
Page 1 of 1

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Revision 2016.1

| Client / Reporting Information | | | | | | Project Information | | | | | | Analytical Information | | | | | | Matrix Codes | |
|--|--------------------------------|--------------|---------|------|--------|----------------------|-----|-----------------|------------------|--------------------------------|------|------------------------|------|------|--------|----------------------------|--|--------------|--|
| Company Name / Branch: | | | | | | Project Name/Number: | | | | | | | | | | | | | |
| Company Address: | | | | | | Project Location: | | | | | | | | | | | | | |
| Email: | | | | | | Invoice To: | | | | | | | | | | | | | |
| Phone No: | | | | | | | | | | | | | | | | | | | |
| Project Contact: | | | | | | PO Number: | | | | | | | | | | | | | |
| Sample's Name: | | | | | | ZRP-4755 | | | | | | | | | | | | | |
| No. | Field ID / Point of Collection | Sample Depth | Date | Time | Matrix | # of bottles | HCl | NaOH/Zn Acetate | HNO ₃ | H ₂ SO ₄ | NaOH | NaHSO ₄ | MeOH | NONE | Notes: | | | | |
| 1 | ES01 | 13' | 8/19/18 | 1400 | S | 1 | | | | | | | | | X | BTEX 801 (only BTEX) | | | |
| 2 | FS02 | 13' | 8/16/18 | 1050 | S | 1 | | | | | | | | | X | TPH (MRO) (GRO) (DAO) 8015 | | | |
| 3 | SS05 | 6" | 8/13/18 | 1525 | S | 1 | | | | | | | | | X | Chlorides (300.00) | | | |
| 4 | SS06 | 6" | 8/13/18 | 1530 | S | 1 | | | | | | | | | X | | | | |
| 5 | SS07 | 6" | 8/13/18 | 1510 | S | 1 | | | | | | | | | X | | | | |
| 6 | SS08 | 6" | 8/13/18 | 1500 | S | 1 | | | | | | | | | X | | | | |
| 7 | SS01A | 1' | 8/13/18 | 1545 | S | 1 | | | | | | | | | X | | | | |
| 8 | SS02A | 1' | 8/13/18 | 1535 | S | 1 | | | | | | | | | X | | | | |
| 9 | SS04A | 1' | 8/13/18 | 1555 | S | 1 | | | | | | | | | X | | | | |
| 10 | | | | | | | | | | | | | | | | | | | |
| Turnaround Time (Business days) | | | | | | | | | | | | | | | | | | | |
| Data Deliverable Information | | | | | | | | | | | | | | | | | | | |
| Level II Std OC | | | | | | | | | | | | | | | | | | | |
| Level III Std QC+ Forms | | | | | | | | | | | | | | | | | | | |
| Level IV (Full Data Pkg raw data) | | | | | | | | | | | | | | | | | | | |
| Level I Report with TRRP checklist | | | | | | | | | | | | | | | | | | | |
| TAT Starts Day received by Lab, if received by 5:00 pm | | | | | | | | | | | | | | | | | | | |
| FED-EX / UPS: Tracking # | | | | | | | | | | | | | | | | | | | |
| Relinquished By: [Signature] | | | | | | | | | | | | | | | | | | | |
| Received By: [Signature] | | | | | | | | | | | | | | | | | | | |
| Date Time: 8/15/18 15:30 | | | | | | | | | | | | | | | | | | | |
| On Loc: [Signature] | | | | | | | | | | | | | | | | | | | |
| Thermo Corr Factor: 2.3 | | | | | | | | | | | | | | | | | | | |
| Temp: 18.0°C | | | | | | | | | | | | | | | | | | | |

| | | |
|---|--|--|
| ORIGIN ID:MAFA (806) 794-1296 XENCO XENCO 1211 W. FLORIDA AVE MIDLAND, TX 79701 UNITED STATES US | | SHIP DATE: 15AUG18 ACTWGT: 32.00 LB CMO: 10/813/06/NET 4040 DIMS: 26x14x14 IN BILL RECIPIENT |
| TO XENCO XENCO 1211 W. FLORIDA AVE MIDLAND TX 79701 (806) 794-1296 INV. REF. PO. DEPT. | | |
|   | | |
| 552J113309/DCA5 | | |
| TRK# 7729 8612 5417 0201 | THU - 16 AUG 3:00P STANDARD OVERNIGHT | 41 MAFA TX-US LBB 79701 |
|  | | |

After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 08/16/2018 02:25:00 PM

Work Order #: 596050

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist**Comments**

| | |
|---|-----|
| #1 *Temperature of cooler(s)? | 2.3 |
| #2 *Shipping container in good condition? | Yes |
| #3 *Samples received on ice? | Yes |
| #4 *Custody Seals intact on shipping container/ cooler? | N/A |
| #5 Custody Seals intact on sample bottles? | N/A |
| #6 *Custody Seals Signed and dated? | N/A |
| #7 *Chain of Custody present? | Yes |
| #8 Any missing/extra samples? | No |
| #9 Chain of Custody signed when relinquished/ received? | Yes |
| #10 Chain of Custody agrees with sample labels/matrix? | Yes |
| #11 Container label(s) legible and intact? | Yes |
| #12 Samples in proper container/ bottle? | Yes |
| #13 Samples properly preserved? | Yes |
| #14 Sample container(s) intact? | Yes |
| #15 Sufficient sample amount for indicated test(s)? | Yes |
| #16 All samples received within hold time? | Yes |
| #17 Subcontract of sample(s)? | No |
| #18 Water VOC samples have zero headspace? | N/A |

* Must be completed for after-hours delivery of samples prior to placing in the refrigerator

Analyst:

PH Device/Lot#:

Checklist completed by:

Shawnee Gomez

Date: 08/16/2018

Checklist reviewed by:

Jessica Kramer

Date: 08/17/2018

ATTACHMENT 3: PHOTOGRAPHIC LOG



PHOTOGRAPHIC LOG



Photograph 1: View south of release area.



Photograph 2: View east of pothole (PH02).



APPENDIX D

NMOCD Notifications

From: [Green, Garrett J](#)
To: [Tacoma Morrissey](#); [Ben Bell](#); [Ashley Ager](#)
Cc: [Ruth, Amy](#)
Subject: FW: The Oil Conservation Division (OCD) has rejected the application, Application ID: 194575
Date: Wednesday, March 8, 2023 2:55:52 PM
Attachments: [BEU 149 Summary of Activities .pdf](#)
[10-23-18 BEU 149 - Closure Report.pdf](#)

[**EXTERNAL EMAIL**]

From: OCDOnline@state.nm.us <OCDOnline@state.nm.us>
Sent: Wednesday, March 8, 2023 9:47 AM
To: Green, Garrett J <garrett.green@exxonmobil.com>
Subject: The Oil Conservation Division (OCD) has rejected the application, Application ID: 194575

External Email - Think Before You Click

To whom it may concern (c/o Garrett Green for XTO PERMIAN OPERATING LLC.),

The OCD has rejected the submitted *Internal Manual Incident File Supporting Documentation* (ENV) (IM-BNF), for incident ID (n#) nAB1814128371, for the following reasons:

- **SS01A and SS02A above the remediation and reclamation standards for TPH. The report states "XTO requests no further action for release number 2RP-4755 until final reclamation or site reconfiguration, at which time the impacted soil left in place around the storage tanks will be addressed." Per OCD records this site has been plugged.**
- **2RP-4755 closed. Refer to incident #NAB1814128371 in all future communication.**
- **Please submit a complete report through the OCD Permitting website by 6/9/2023.**

The rejected IM-BNF can be found in the OCD Online: Permitting - Action Status, under the Application ID: 194575.

Please review and make the required correction(s) prior to resubmitting.

If you have any questions why this application was rejected or believe it was rejected in error, please contact me prior to submitting an additional IM-BNF.

Thank you,
Brittany Hall
Projects Environmental Specialist - A
505-517-5333

Brittany.Hall@emnrd.nm.gov

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

From: [Collins, Melanie](#)
To: [ocd.enviro \(ocd.enviro@emnrd.nm.gov\)](#); [Hamlet, Robert, EMNRD \(Robert.Hamlet@emnrd.nm.gov\)](#); [Bratcher, Michael, EMNRD \(mike.bratcher@emnrd.nm.gov\)](#); [Harimon, Jocelyn, EMNRD \(Jocelyn.Harimon@emnrd.nm.gov\)](#)
Cc: [Green, Garrett J; DelawareSpills /SM; Tacoma Morrissey](#)
Subject: XTO - Sampling Notification (Week of 3/13/23 - 3/17/23)
Date: Friday, March 10, 2023 9:39:39 AM
Attachments: [image001.png](#)

[**EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the additional site the week of Mar 13, 2023.

- BEU 149/ NAB1814128371
- Nash Unit 36 / nAPP2224236187

Thank you,

Melanie Collins



Environmental Technician

melanie.collins@exxonmobil.com

432-556-3756

Ben Belill

From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Thursday, March 23, 2023 9:51 AM
To: Enviro, OCD, EMNRD; Bratcher, Michael, EMNRD; Harimon, Jocelyn, EMNRD; Hamlet, Robert, EMNRD
Cc: Ben Belill; DelawareSpills /SM
Subject: XTO - Sampling Notification (Week of 3/27/23 - 3/31/23)

[**EXTERNAL EMAIL**]

All,

XTO plans to complete final sampling activities at the sites listed below for the week of Mar 27, 2023.

Tuesday, Mar 28, 2023

- PLU 13 Dog Town Draw Battery / nAPP2304448906
- Nash 53 SWD / NAB1918643207, NRM2022758966, NAPP2102934064, NAPP2100847227, and NAPP2100838523

Wednesday, Mar 29, 2023

- PLU Pierce Canyon 12 Battery / nAPP2306152871
- PLU 13 Dog Town Draw Battery / nAPP2304448906

Thursday, Mar 30, 2023

- PLU Pierce Canyon 12 Battery / nAPP2306152871
- BEU 149 / NAB1814128371
- PLU 15 TWR Battery / nAPP2305833429

Friday, Mar 31, 2023

- PLU 15 TWR Battery / nAPP2305833429
- JRU 21 SWD / nAB1834656162

Thank you,

Garrett Green

Environmental Coordinator

Delaware Business Unit

(575) 200-0729

Garrett.Green@ExxonMobil.com

XTO Energy, Inc.

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



APPENDIX E

Reclamation Plan

Reclamation Plan

The Big Eddy Unit #149 well pad has been plugged and abandoned and as such, reclamation requirements set forth in 19.15.29.13.D (1) NMAC for the top 4 feet of areas that will be reclaimed following remediation will be applied. The following Reclamation Plan addresses reclamation of the remediated area and has been developed through review and application of the *Revegetation Guidelines Handbook for Southeastern New Mexico* – Version 1-1, authored by NMSLO and dated 2018, and 19.2.100.67 NMAC – *Surface Reclamation on State Oil and Gas Leases*:

- The excavation will be backfilled with locally sourced caliche and topsoil to match surrounding grade. A minimum of 1-foot of topsoil will be placed on top of the caliche to support vegetative growth within the disturbed area;
- Soil in the vicinity of the release in the pasture will be assessed for the proper application of *Table 3 - Revegetation Plans, Codes, and Soil Types for Southeastern New Mexico*;
- The backfilled areas will be seeded utilizing a weed-free seed mix designed from seed listed in the table below;

| Common Name and Preferred Variety | Scientific Name | PLS Per Acre |
|-----------------------------------|--|--------------|
| Annual Quick-cover Grass | | |
| Oats | <i>Avena sativa</i> | 1.00 |
| Cool Season Grass | | |
| Western Wheatgrass | <i>Agropyron smithii</i> | 2.50 |
| Warm-Season Grass | | |
| Black or Blue Grama | <i>Boutela gracilis</i> var. <i>Alma</i> | 1.50 |
| Little Bluestem | <i>Schizachyrium scoparium</i> | 0.50 |
| Sand Dropseed | <i>Sporobolus cryptandrus</i> | 0.50 |
| Sand Bluestem | <i>Andropogon hallii</i> | 1.00 |
| Indiangrass | <i>Sorghastrum nutans</i> | 0.50 |
| Sideoats Grama | <i>Bouteloua curtipendula</i> var. <i>Vaughn</i> | 2.00 |
| Wildflowers/ Forbs | | |
| White prairie clover | <i>Dalea candida</i> | 0.10 |
| Scarlet globemallow | <i>Sphaeralcea coccinea</i> | 0.10 |
| Chia Sage | <i>Salvia columbariae</i> | 0.10 |
| Annual sunflower | <i>Helianthus annuus</i> | 0.10 |
| Annual buckwheat | <i>Eriogonum annuum</i> | 0.10 |

- The seed mixture will be distributed with one or more of the following methods: push broadcaster seed spreader, tractor operated broadcast seed spreader, and/or drill seeding based on Site conditions and contractor availability;
- Application of the seed mixture will be at a coverage of 10 pounds of seeds per acre of reclaimed pasture with distribution by a drilling method or 20 pounds of seeds per acre of reclaimed pasture with distribution by a broadcast method;
- Erosion control management is not anticipated since the area is relatively flat; however, in the event erosion control management is necessary to support vegetation growth and

minimize erosion until the root structures take hold, the application of the following best management practices (BMPs) could potentially include:

- Prompt revegetation with mulching and contouring the ground surface to limit surface water flow;
 - The placement of waddles in areas with a propensity for high run off rates;
 - Straw cover if high winds are anticipated to support moisture retention and limit wind from blowing seeds away before they have had time to germinate; and/or
 - Other erosional control best management practices (BMP) as necessary to support timely and healthy regrowth of vegetation in disturbed areas;
- Seeding is anticipated to be completed in the fall when temperatures and precipitation are most conducive for vegetation growth. In general, seeding should occur approximately one month after the last frost in the spring up until approximately one month prior to the first fall frost. NMSLO has recognized the optimal time to seed is between July and early September, which will be the preferred timeframe for this Site;
- Annual inspections (at a minimum) will take place on the location until revegetation is consistent with local natural vegetation density. The Site will be inspected the following the fall seeding event to assess the success of regrowth. If necessary, an additional application of the NMSLO-approved seed mixture will be applied as well as any needed BMPs will be installed to support growth and limit erosion; and
- Upon completion of revegetation, a copy of the C-103 submitted to NMOCD will also be submitted to NMSLO for final inspection and release.

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 242573

CONDITIONS

| | |
|---|---|
| Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707 | OGRID: 5380 |
| | Action Number: 242573 |
| | Action Type: [C-141] Release Corrective Action (C-141) |

CONDITIONS

| Created By | Condition | Condition Date |
|------------|--|----------------|
| bhall | Closure approved. Site will need to meet the requirements of 19.15.29.13 NMAC. | 7/21/2023 |