



May 4, 2026

**New Mexico Oil Conservation Division**

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

**Re: 2026 Revised Remediation Work Plan  
Remuda Basin Battery Unit #1  
Incident Number NHMP1413240586  
Facility ID fAPP2126043451  
Eddy County, New Mexico**

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared the following *2026 Revised Remediation Work Plan (RRWP)* to propose additional remedial activities to address impacted soil resulting from the April 27, 2014, produced water release at the Remuda Basin Battery Unit #1 (Site). On May 12, 2020, a *Deferral Request* was prepared on behalf of XTO by LT Environmental, Inc. (LTE) and submitted to the New Mexico Oil Conservation Division (NMOCD) documenting delineation soil sampling and excavation activities completed at the Site. NMOCD approved XTO's deferral request on September 27, 2022, with the stipulation that final remediation of the remaining impacted soil would occur during any future major deconstruction, alteration and/or abandonment. A *2026 Remediation Work Plan (RWP)* was submitted to the NMOCD on January 28, 2026, proposing additional delineation of impacts and installation of a clay liner to provide an artificial hydraulic barrier to stop downward migration of the impacts towards groundwater. The *RWP* was conditionally approved on February 9, 2026; however, the installation of the liner was denied. The following *RRWP* summarizes remediation activities conducted following decommissioning of the Site and proposes additional remedial activities in support of requesting No Further Action (NFA) for Incident Number NHMP1413240586.

**SITE DESCRIPTION AND RELEASE BACKGROUND**

The Site is located in Unit J, Section 24, Township 23 South, Range 29 East, in Eddy County, New Mexico (32.2886238°, -103.9360428°) and is associated with oil and gas exploration and production operations on land that is owned by the New Mexico State Land Office (NMSLO).

On April 27, 2014, a produced water transfer pump failed to start due to blown fuses, causing approximately 15 barrels (bbls) of produced water to release within and around the tank battery containment and just into the pasture area south of the tank battery. The former operator reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 on May 8, 2014, and was assigned Remediation Permit (RP) Number 2RP-2296 and Incident Number NHMP1413240586.

Delineation sampling and excavation were conducted in 2019 and 2020 by LTE to address impacts from the release. A liner from historical remediation activities was encountered at 4 feet below ground surface (bgs) north of the tank battery. Impacted soil was excavated from four separate areas around the tank containment, and confirmation samples were collected from the excavations. The northern extent of the

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excavation was limited due to the presence of the active tank battery. The combined excavations measured approximately 1,400 square feet in area with depths ranging from approximately 2.5 feet to 9 feet bgs. Approximately 650 cubic yards of impacted soil were excavated from the Site; however, residual impacted soil was left in place for compliance with the XTO safety policy regarding earth moving activities within 2 feet of active production equipment. XTO requested a deferral for two sidewall sampling locations (SW04 and SW05) on May 12, 2020, *Deferral Request* submitted to the NMOCD. The *Deferral Request* is included as Appendix A. NMOCD approved XTO's deferral request on September 27, 2022, with the requirement that remediation of the remaining impacted soil would occur during any future major deconstruction, alteration and/or abandonment.

A *RWP* was submitted to the NMOCD on January 28, 2026, proposing lateral delineation of the impacted soil, excavation of impacts observed at depths less than 20 feet below ground surface (bgs), backfill of excavation to depth of 4 feet bgs, installation of a clay liner, and backfill to ground surface. On February 9, 2026, the NMOCD approved the *RWP* with the following conditions.

- *The remediation plan is conditionally approved to include the following condition of approval: 1. Liners that are placed on top of contamination in an effort solely to ensure contamination does not migrate further is not equal or better protection, as contamination will remain in place. The proposal to install a 4' Bentomat clay liner is not approved. Before liners may be considered, the excavation must be completed to the maximum extent, unless extenuating circumstances arise in the process. Due to the multitude of environmental receptors nearby, including; an intermittent stream less than 300 feet away, shallow groundwater, and high karst, release being less than 1,000' from a freshwater source, a liner placed at 4' is not equal or more protective of public health, groundwater and the environment.*

## CLOSURE CRITERIA

Based on the results of the Site Characterization, which was documented in the May 12, 2020, *Deferral Request*, the following NMOCD Table I Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg);
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg;
- Total petroleum hydrocarbons (TPH): 100 mg/kg; and
- Chloride: 600 mg/kg.

Potential Site receptors are identified on Figure 1.

## NMSLO CULTURAL RESOURCES AND BIOLOGICAL REVIEW

### Cultural Properties Protection

- A Class III Cultural Resource Inventory was conducted immediately north of the Site at Incident Number NAB1836137253 in May 2019 (New Mexico Cultural Resource Information System [NMCRIS] No. 143058). The investigation reported a finding of No Historic Properties Affected for the adjacent property to the north and including the northern half of this Site.
- The intent of the Site remediation and reclamation is to restore habitat and vegetation cover/composition to pre-disturbance conditions.
- Based on results of the delineation data, remediation and reclamation activities are anticipated to remain in previously disturbed areas of the well pad. If any surface disturbing activities encroach into undisturbed areas, the Cultural Properties Protection (CPP) Rule will be followed.

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## Biological Review

Ensolum personnel conducted a desktop review to establish if the Site is within an area of possible threatened, endangered, and sensitive wildlife and plant species, environmentally sensitive areas, surface waters, and sensitive soils.

- The Site is not located within the historical range of the Lesser Prairie-Chicken habitat; however, the Site is located within an NMSLO Candidate Conservation Agreement with Assurances (CCAA) area.
  - Measures to comply with the CCAA include restoration of habitat by reclamation of the well pad and revegetation with native species.
  - Construction activities will be avoided during breeding, nesting, and early brood-rearing seasons.
- The Site is not located within the range of the Dunes Sagebrush Lizard.
- The Site is not located within the CCAA boundary for the Texas Hornshell mussel.
- A review of the U.S. Fish and Wildlife Services Information for Planning and Consultation (IPaC) resources indicated there are no potential critical habitats at the Site.
  - Threatened and non-essential experimental population bird species (Piping Plover and Northern Aplomado Falcon, respectively) are potentially present in the area near the Site.
  - Endangered clam species (Texas Hornshell) are potentially present in the area near the Site.
  - Proposed threatened insect species (Monarch Butterfly) are possibly present in the area near the Site.
  - No native vegetation/habitat outside of the well pad extent will be disturbed during remediation activities.
- A review of the New Mexico Crucial Habitat Assessment Tool (CHAT) indicated a CHAT score of 2.
  - If remediation or reclamation activities extend outside of the well pad extent, XTO will work with an NMSLO biologist to determine if an SSPS or biological survey is warranted.
- The Site is located in a high-potential karst area so the strictest Closure Criteria was applied for the release.
- The depth to groundwater is documented to be just over 50 feet bgs near the Site.
- An intermittent dry wash is located within 300 feet of the original release extent. The Site will be monitored for sedimentation off the Site.
- The Natural Resources Conservation Service (NRCS) Web Soil Survey classifies the soil type at the Site as Reeves-Gypsum land complex with 0 to 3 percent slopes. The NRCS description of the soil is included as Appendix B.

### Summary of Reeves:

- Typical Soil Profile
  - 0 to 8 inches: Loam

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- 8 to 32 inches: Clay loam
- 32 to 60 inches: Gypsiferous material

#### Properties

- Slope: 0 to 1 percent slopes
- Depth to restrictive feature: More than 80 inches
- Drainage Class: Well drained
- Runoff class: High

#### Summary of Gypsum Land:

- o Setting
  - Landform: Ridges, plains, hills
  - Parent material: Residuum weathered from gypsum
- Remediation and reclamation activities are not expected to negatively impact sensitive receptors or sensitive soils.

### ADDITIONAL EXCAVATION AND SOIL SAMPLING ACTIVITIES

The tank battery was decommissioned prior to March 2022, and excavation of the deferred area began in 2023. The current size of the excavation is approximately 1,900 square feet by 19.5 feet bgs, and the sidewalls are appropriately sloped to comply with safety protocols. Excavations extending deeper than 20 feet bgs require a protective system designed by a registered professional engineer (RPE) in accordance with OSHA 29 CFR 1926.652(b) and (c) so the excavation was terminated at 19.5 feet bgs. Sidewall and floor soil samples were collected from the current excavation between July and September 2025. All soil samples were field screened for volatile organic compounds (VOCs) and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. 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 samples were transported under strict chain-of-custody procedures to Cardinal Laboratories (Cardinal) in Hobbs, New Mexico or Eurofins Carlsbad in Carlsbad, New Mexico, for analysis of BTEX using United States Environmental Protection Agency (EPA) Method 8021B; TPH following EPA Method 8015M/D; and chloride following Standard Method 4500 or EPA Method 300.0. The sampling locations were mapped utilizing a handheld Global Positioning System (GPS) unit.

A total of 10 composite soil samples were collected from the floor of the final excavation (FS01 through FS10) at a depth of 19.5 feet bgs. A total of 33 composite soil samples were collected from the sidewalls of the final excavation at depths ranging from ground surface to 4 feet bgs (SW01 through SW06, SW07A, SW08, and SW27), 4 feet to 16 feet bgs (SW09 through SW18, SW20A through SW23A, SW24 through SW26, SW28A, and SW29), 4 feet to 18 feet bgs (SW19), and 16 feet to 19.5 feet bgs (SW30 through SW33). The 43 excavation soil samples collected from the current extent of the excavation report BTEX and TPH concentrations compliant with Site Closure Criteria. Sidewall samples collected from the top four feet of soil indicate all COCs are compliant with the Closure Criteria. Seventeen out of 20 sidewall samples collected between 4 feet and 16 feet bgs are compliant with Closure Criteria. Chloride concentrations appear to increase in the clay present at a depth of 16 feet bgs beneath the gypsum layer. Chloride concentrations exceed the Closure Criteria in all 10 floor samples and all four sidewall samples collected at depths ranging from 16 feet to 19.5 feet bgs, with concentrations ranging from 608 mg/kg to 7,680 mg/kg.

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A core drill was used to collect discrete soil samples at three locations (BH01 through BH03) within the excavation to determine the vertical extent of chloride impacts. Soil samples were collected every 2 feet and screened for VOCs and chloride using the methods described above, until field screenings suggested COC concentrations were compliant with Closure Criteria. Soil samples were collected and submitted using the above-described procedures for laboratory analysis of BTEX, TPH and chloride. Chloride concentrations were compliant with Closure Criteria at a depth of 26 feet bgs in BH01 and BH02, and 20 feet bgs in BH03.

Additionally, three soil borings were advanced with a core drill west, east and north (BH04, BH06, and BH07, respectively) of the excavation to delineate chloride impacts laterally. Soil samples were collected every five feet, screened, and submitted for analysis as described above. TPH and chloride concentrations exceeded Closure Criteria in the top 10 feet of the boring advanced east of the excavation (BH06). Chloride concentrations were detected above Closure Criteria at a depth of 5 feet bgs north of the excavation at sampling location BH07. All COC concentrations were compliant with Closure Criteria west of the excavation at sampling location BH04, which defines the western extent of the soil impacts. The laboratory analytical results for the 2025 excavation and delineation soil sampling locations are summarized in Table 1 and illustrated on Figure 2. The 2025 laboratory analytical reports are included as Appendix B.

## PROPOSED REMEDIATION WORK PLAN

As discussed above, chloride impacts exceeding Closure Criteria remain in place at the Site from a depth of 4 feet bgs to a maximum depth of 26 feet bgs at the Site. Based on the conditions present at the Site, XTO proposes the following activities be completed at the Site.

- XTO will excavate soil surrounding delineation boring BH06 to a depth of 10 feet bgs to address TPH impacts noted in the boring. Soil boring BH07 will also be excavated to a depth of 4 feet bgs to remove chloride impacts in the top 4 feet of soil to accommodate the reclamation requirement.
- A protective system design will be prepared and certified by an RPE so the current Site excavation can be extended to depths greater than 20 feet bgs and less than 35 feet bgs. A trained Competent Person will provide oversight during excavation activities. A Competent Person is someone capable of identifying the known and predictable hazards associated with excavation work sites that pose a danger to employees, and who is authorized to take prompt corrective measures to eliminate them. A designated Competent Person determined the majority of the soil on Site to be Type C, which is the most conservative scenario.
- To direct excavation activities, soil will be field screened for VOCs and chloride using the methods described above. The excavations will extend laterally and vertically until laboratory analytical results confirm that impacted soil has been removed from the Site.
- Following removal of the impacted soil, final 5-point composite confirmation soil samples will be collected every 200 square feet from the floor and sidewalls of the excavation. The soil samples will be screened, handled and analyzed using the methods discussed above.
- After receiving analytical results confirming the removal of COC concentrations below Closure Criteria, the excavation will be backfilled to ground surface with clean, locally purchased material, and the Site will be recontoured to match pre-existing site conditions. The backfill material will be sampled using methods described above to ensure the soil does not contain COCs above Closure Criteria.

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Photographs of the excavation and backfill activities will be submitted to the NMOCD in a *Closure Request*. The proposed work will be completed within 90 days of approval from the NMOCD and the NMSLO of the *RRWP*. Following the approval of the *Closure Request* with NFA for Incident Number NHMP1413240586, the area will be reseeded with a NMSLO approved seed mixture, and the Site will be assessed for erosion control if necessary. A *Reclamation Report* will be submitted to NMSLO prior to completion of reclamation work.

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

Sincerely,  
**Ensolum, LLC**



Katherine Kahn, P.G. (licensed in Wyoming)  
Senior Managing Geologist



Tacoma Morrissey, M.S., P.G. (licensed in Texas)  
Associate Principal

cc: Dale Woodall, XTO  
Richard Kotzur, XTO  
New Mexico State Land Office

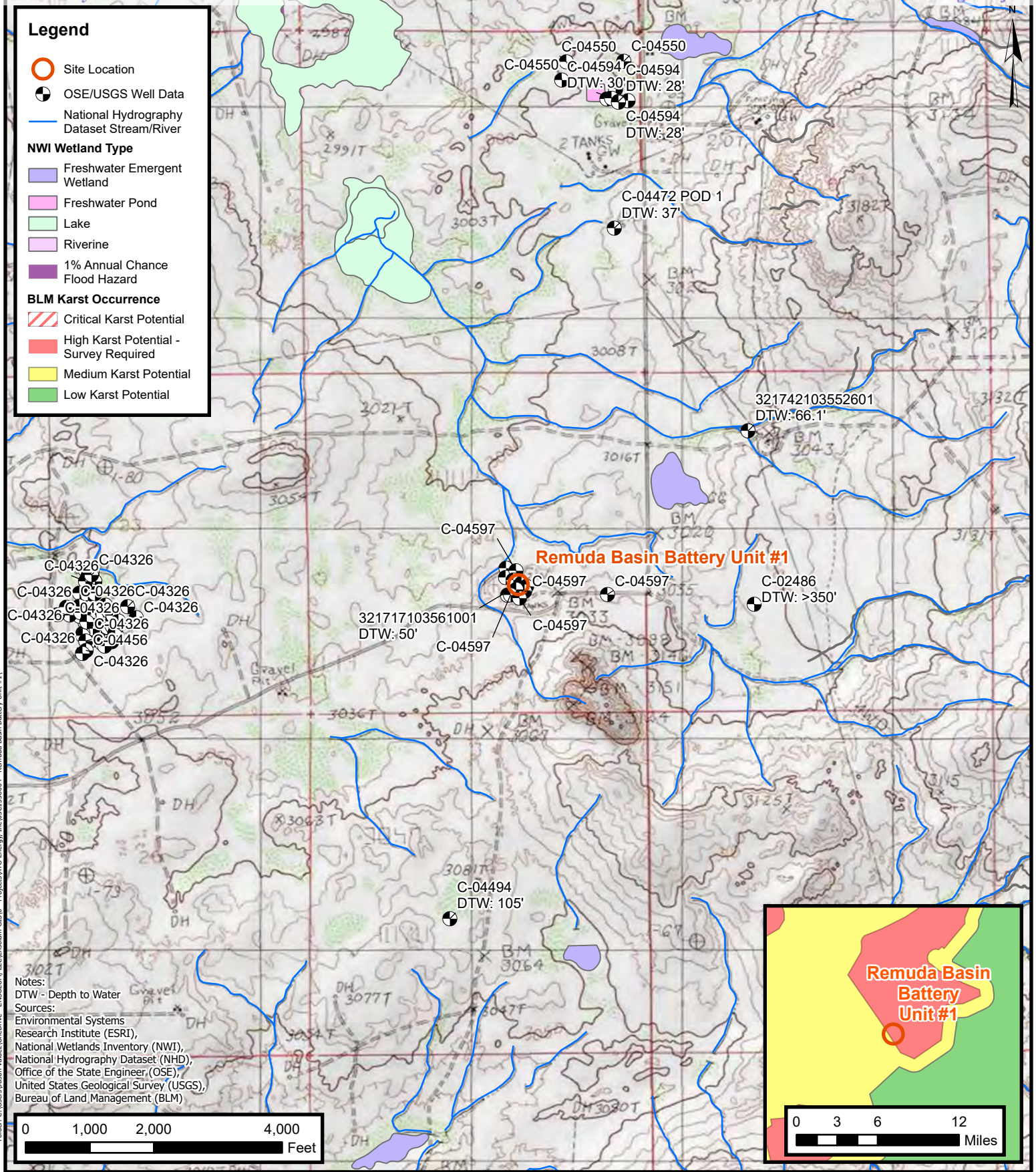
Appendices:

- Figure 1 Site Receptor Map
- Figure 2 2025 Excavation Extent
- Table 1 Soil Sample Analytical Results
- Appendix A May 12, 2020, *Deferral Request*
- Appendix B Laboratory Analytical Reports & Chain-of-Custody Documentation (2025)



FIGURES





Folder: C:\Users\Justin.Velez\OneDrive - ENSOLUM, LLC\Ensolium GIS\0 - Projects\XTO Energy, Inc\031558004 - Remuda Basin Battery Unit #1

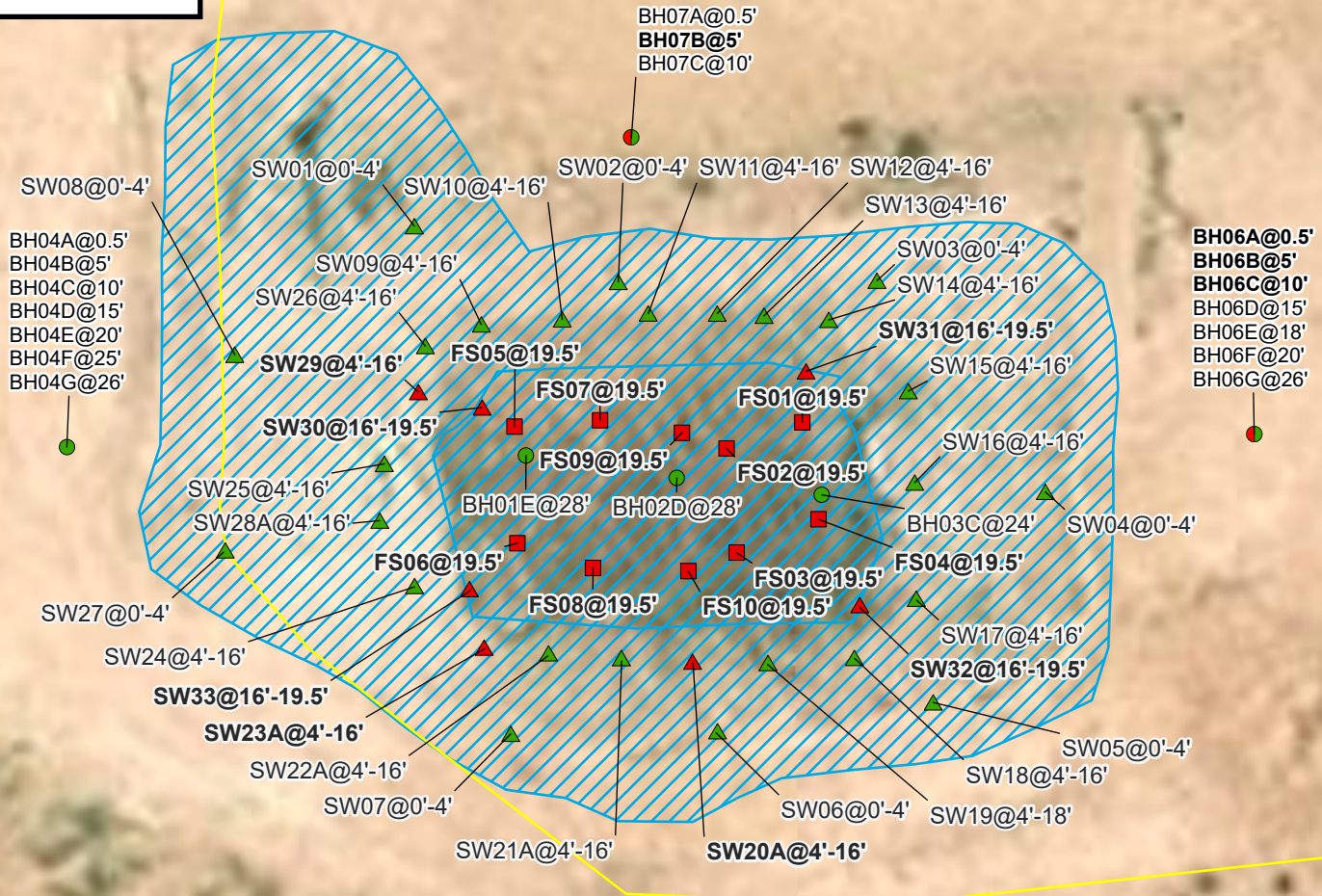


**Site Location Map**  
 XTO Energy, Inc  
 Remuda Basin Battery Unit #1  
 Incident Number: NHMP1413240586 Unit J,  
 Section 24, T 23S, R 29E  
 Eddy County, New Mexico

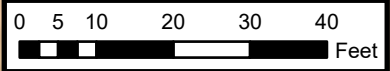
**FIGURE 1**

Legend

- Confirmation/ Delineation Soil Sample in Compliance with Closure Criteria
- Confirmation/ Delineation Soil Sample Compliant with Closure Criteria at Terminus Depth
- Confirmation Floor Sample with Concentrations Exceeding Closure Criteria
- ▲ Confirmation Sidewall Sample in Compliance with Closure Criteria
- ▲ Confirmation Sidewall Sample with Concentrations Exceeding Closure Criteria
- Oil and Gas Utility Line
- ▨ Excavation Extent



Notes:  
 Sample ID @ Depth Below Ground Surface.  
 Samples in bold indicate sample exceeded applicable closure criteria.



Sources: Environmental Systems Research Institute (ESRI)



# 2025 Excavation Extent

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**FIGURE**  
**2**



TABLE

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**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
 Remuda Basin Battery Unit #1 - Spill  
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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)
<b>NMOCD Table I Closure Criteria (NMAC 19.15.29)</b>			<b>10</b>	<b>50</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>100</b>	<b>600</b>
<b>2025 Delineation Soil Samples</b>										
BH01A	09/26/2025	20	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>704</b>
BH01B	09/26/2025	22	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>832</b>
BH01C	09/26/2025	24	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>848</b>
BH01D	09/26/2025	26	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
BH01E	09/26/2025	28	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
BH02A	09/26/2025	20	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>2,020</b>
BH02B	09/26/2025	22	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>1,970</b>
BH02C	09/26/2025	26	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	512
BH02D	09/26/2025	28	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
BH03A	09/30/2025	20	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	352
BH03B	09/30/2025	22	<0.050	<0.300	<10.0	26.8	20.4	26.8	47.2	64.0
BH03C	09/30/2025	24	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
BH04A	10/02/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
BH04B	10/02/2025	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
BH04C	10/02/2025	10	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	288
BH04D	10/02/2025	15	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
BH04E	10/02/2025	20	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
BH04F	10/02/2025	25	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
BH04G	10/02/2025	26	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
BH06A	9/29/2025	0.5	<0.050	<0.300	<10.0	64.1	21.5	64.1	85.6	<b>640</b>
BH06B	9/29/2025	5	<0.050	<0.300	58.7	<b>430</b>	55.2	<b>489</b>	<b>544</b>	<b>1,090</b>
BH06C	9/29/2025	10	0.077	<0.300	27.4	<b>154</b>	15.7	<b>181</b>	<b>197</b>	<b>656</b>
BH06D	9/29/2025	15	0.118	<0.300	23.6	74.2	<10.0	97.8	97.8	400
BH06E	9/29/2025	18	<0.050	<0.300	<10.0	54.8	<10.0	54.8	54.8	160
BH06F	9/30/2025	20	<0.050	<0.300	<10.0	21.6	<10.0	21.6	21.6	32.0
BH06G	10/1/2025	26	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
 Remuda Basin Battery Unit #1 - Spill  
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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)
<b>NMOCD Table I Closure Criteria (NMAC 19.15.29)</b>			<b>10</b>	<b>50</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>100</b>	<b>600</b>
BH07A	9/29/2025	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	592
BH07B	9/29/2025	5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>1,060</b>
BH07C	10/1/2025	10	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	480
<b>2025 Confirmation Soil Samples</b>										
FS04	<del>7/29/2025</del>	46	<del>&lt;0.050</del>	<del>&lt;0.300</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	412
FS01	9/8/2025	19.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>1,120</b>
FS02	<del>7/29/2025</del>	46	<del>&lt;0.050</del>	<del>&lt;0.300</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	412
FS02	9/8/2025	19.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>2,280</b>
FS03	<del>7/29/2025</del>	46	<del>&lt;0.050</del>	<del>&lt;0.300</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<b>4,360</b>
FS03	9/8/2025	19.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>1,260</b>
FS04	<del>7/29/2025</del>	46	<del>&lt;0.050</del>	<del>&lt;0.300</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<b>4,340</b>
FS04	9/8/2025	19.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>1,310</b>
FS05	<del>7/29/2025</del>	46	<del>&lt;0.050</del>	<del>&lt;0.300</del>	<del>29.4</del>	<del>838</del>	<del>477</del>	<del>867</del>	<del>&lt;10.0</del>	<b>848</b>
FS05	9/8/2025	19.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>1,230</b>
FS06	<del>7/29/2025</del>	46	<del>&lt;0.050</del>	<del>&lt;0.300</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<b>608</b>
FS06	9/8/2025	19.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>1,180</b>
FS07	<del>7/29/2025</del>	46	<del>&lt;0.050</del>	<del>&lt;0.300</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	460
FS07	9/8/2025	19.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>1,600</b>
FS08	<del>7/29/2025</del>	46	<del>&lt;0.050</del>	<del>&lt;0.300</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<b>688</b>
FS08	9/8/2025	19.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>3,760</b>
FS09	<del>7/29/2025</del>	46	<del>&lt;0.050</del>	<del>&lt;0.300</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<b>624</b>
FS09	9/8/2025	19.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>1,840</b>
FS10	<del>7/29/2025</del>	46	<del>&lt;0.050</del>	<del>&lt;0.300</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<b>5,600</b>
FS10	9/8/2025	19.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>4,080</b>
SW01	7/29/2025	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
SW02	7/29/2025	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	160
SW03	7/29/2025	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
SW04	7/29/2025	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW05	7/29/2025	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	432
SW06	7/29/2025	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	512
SW07	<del>7/29/2025</del>	0-4	<del>&lt;0.050</del>	<del>&lt;0.300</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<b>624</b>
SW07A	9/17/2025	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	336



**TABLE 1**  
**SOIL SAMPLE ANALYTICAL RESULTS**  
 Remuda Basin Battery Unit #1 - Spill  
 XTO Energy, Inc  
 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 I Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	NE	100	600
SW08	7/29/2025	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
SW09	7/30/2025	4-16	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
SW10	7/30/2025	4-16	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	288
SW11	7/30/2025	4-16	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	112
SW12	7/30/2025	4-16	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SW13	7/30/2025	4-16	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
SW14	7/30/2025	4-16	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	240
SW15	7/30/2025	4-16	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
SW16	7/30/2025	4-16	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
SW17	7/30/2025	4-16	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW18	7/30/2025	4-16	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	464
<del>SW19</del>	<del>7/30/2025</del>	<del>4-16</del>	<del>&lt;0.050</del>	<del>&lt;0.300</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>736</del>
SW19	8/19/2025	4-18	<0.00199	<0.00398	<50.0	<50.0	72.5	<50.0	72.5	551
<del>SW20</del>	<del>7/30/2025</del>	<del>4-16</del>	<del>&lt;0.050</del>	<del>&lt;0.300</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>9,680</del>
SW20	8/20/2025	4-18	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	672
SW20A	9/8/2025	4-16	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	608
<del>SW21</del>	<del>7/30/2025</del>	<del>4-16</del>	<del>&lt;0.050</del>	<del>&lt;0.300</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>8,320</del>
SW21	8/20/2025	4-18	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	688
SW21A	9/8/2025	4-16	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	464
<del>SW22</del>	<del>7/30/2025</del>	<del>4-16</del>	<del>&lt;0.050</del>	<del>&lt;0.300</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>1,900</del>
SW22A	9/8/2025	4-16	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	496
<del>SW23</del>	<del>7/30/2025</del>	<del>4-16</del>	<del>&lt;0.050</del>	<del>&lt;0.300</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>&lt;10.0</del>	<del>1,710</del>
SW23A	9/8/2025	4-16	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	5,640
SW24	7/30/2025	4-16	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
SW25	7/30/2025	4-16	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SW26	7/30/2025	4-16	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
SW27	9/8/2025	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<16.0
<del>SW28</del>	<del>9/8/2025</del>	<del>4-16</del>	<del>&lt;0.050</del>	<del>&lt;0.300</del>	<del>&lt;10.0</del>	<del>91.7</del>	<del>48.4</del>	<del>91.7</del>	<del>440</del>	<del>1,650</del>
SW28A	9/17/2025	4-16	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	544
SW29	9/8/2025	4-16	<0.050	<0.300	<10.0	22.9	<10.0	22.9	22.9	2,600



**TABLE 1  
SOIL SAMPLE ANALYTICAL RESULTS  
Remuda Basin Battery Unit #1 - Spill  
XTO Energy, Inc  
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)
<b>NMOCD Table I Closure Criteria (NMAC 19.15.29)</b>			<b>10</b>	<b>50</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>100</b>	<b>600</b>
SW30	9/8/2025	16-19.5	<0.050	<0.300	<10.0	19.5	<10.0	19.5	19.5	<b>7,680</b>
SW31	9/8/2025	16-19.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>1,760</b>
SW32	9/8/2025	16-19.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>1,860</b>
SW33	9/8/2025	16-19.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	<b>1,020</b>

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 I Closure Criteria or reclamation requirement where applicable.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

NMAC: New Mexico Administrative Code

Grey text indicates soil sample removed during excavation activities



## APPENDIX A

May 12, 2020  
*Deferral Request*

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LT Environmental, Inc.

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

May 12, 2020

Mr. Bradford Billings  
New Mexico Oil Conservation Division  
1220 South St. Francis Drive, #3  
Santa Fe, New Mexico 87505

**RE: Deferral Request  
XTO Energy, Inc.  
Remuda Basin Battery Unit #1  
Remediation Permit Number 2RP-2296  
Eddy County, New Mexico**

Dear Mr. Billings:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Deferral Request detailing site assessment, soil sampling, and excavation activities at the Remuda Basin Battery Unit # 1 (Site) in Unit J, Section 24, Township 23 South, Range 29 East, in Eddy County, New Mexico (Figure 1). The purpose of these activities was to address impacts to soil resulting from a produced water release at the Site. Based on the results of the soil sampling events, XTO is submitting this Deferral Request, describing remediation that has occurred and requesting deferral of final remediation until the Site is reconstructed, and/or the well pad is abandoned.

The release is included in the Compliance Agreement for Remediation for Historical Releases (Compliance Agreement) between XTO and the New Mexico Oil Conservation Division (NMOCD) effective November 13, 2018. The purpose of the Compliance Agreement is to ensure reportable releases that occurred prior to August 14, 2018, where XTO is responsible for the corrective action, comply with Title 19, Chapter 15, Part 29 (19.15.29) of the New Mexico Administrative Code (NMAC) as amended on August 14, 2018. The release is categorized as a Tier IV site in the Compliance Agreement, meaning the release occurred prior to August 14, 2018, the effective date of 19.15.29 NMAC; however, remediation was ongoing.

### **RELEASE BACKGROUND**

On April 27, 2014, a produced water transfer pump failed to start due to blown fuses, causing approximately 15 barrels (bbls) of produced water to release within and around the tank battery containment and pasture area south of the tank battery. The former operator reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 on May 8, 2014 and was assigned Remediation Permit (RP) Number 2RP-2296 (Attachment 1).



## SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of NMAC 19.15.29.12. Depth to groundwater at the Site is estimated to be between 50 and 100 feet below ground surface (bgs) based on the nearest water well data. The nearest permitted water well with depth to water data is United States Geological Survey (USGS) well 321717103561001, located approximately 98 feet northwest of the Site. The water well has a depth to groundwater of approximately 50.26 feet bgs. Ground surface elevation at the water well location is 3,033 feet above mean sea level (AMSL), which is approximately 3 feet lower in elevation than the Site. The closest continuously flowing water or significant watercourse to the Site is an intermittent stream approximately 280 feet southwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is less than 1,000 feet to a freshwater well. The Site is not within a 100-year floodplain or overlying a subsurface mine. The Site is located within a high-potential karst area.

## CLOSURE CRITERIA

Based on the results of the Site Characterization, the following NMOCD Table 1 Closure Criteria (Closure Criteria) apply:

- Benzene: 10 milligrams per kilogram (mg/kg);
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg;
- Total petroleum hydrocarbons (TPH): 100 mg/kg; and
- Chloride: 600 mg/kg.

## SITE ASSESSMENT, EXCAVATION, AND DELINEATION SOIL SAMPLING ACTIVITIES

Between November 2019 and April 2020, LTE personnel were at the Site to oversee site assessment and excavation activities.

Potholes were advanced via backhoe at 12 locations around the tank battery on the well pad and pasture area south of the well pad to assess the lateral and vertical extent impacted soil. The pothole locations were selected based on information provided on the initial Form C-141 and field observations. Potholes PH01 through PH12 were advanced to depths ranging from 1.5 feet to 9 feet bgs. Delineation soil samples were collected from the pothole from depths ranging from 1 foot to 9 feet bgs. A liner from historical remediation activities was encountered at 4 feet bgs north of the tank battery in potholes PH03, PH04, and PH11. Additional vertical delineation was not completed north of the tank battery in order to preserve the integrity of the historical liner. Soil from the potholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips,



respectively. Field screening results and observations for the potholes were logged on lithologic/soil sampling logs, which are included in Attachment 2. The potholes, delineation soil samples, and historical liner location are depicted on Figure 2.

Impacted soil was excavated from the release area as indicated by visual observations, field screening activities, and laboratory analytical results for the delineation soil samples. To direct excavation activities, LTE screened soil for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively. Impacted soil was excavated from four separate areas, to depths ranging from approximately 2.5 feet to 9 feet bgs. Following removal of impacted soil to the extent possible, LTE collected five-point composite soil samples every 200 square feet from the sidewalls and floors of the excavations. The five-point composite samples were collected by depositing five aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples SW01 through SW18 were collected from the sidewalls of the excavations at depths ranging from the ground surface to approximately 9 feet bgs. Composite soil samples FS01 through FS07 were collected from the floors of the excavations at depths ranging from approximately 2.5 feet to 9 feet bgs. No floor sample was collected from the excavation north of the tank battery due to the historical liner present at 4 feet bgs. Instead, the excavation in this area exposed the liner, removing all impacted soil above it. Discrete delineation samples (SW04A/SW04B/SW04C and SW05A/SW05B/SW05C/SW05D) were collected below the depth of the excavation in the area just south of the tank battery containment for additional delineation purposes. The excavation extents and excavation soil sample locations are depicted on Figure 3. Photographic documentation was conducted during the Site visits. Photographs are included in Attachment 3.

The delineation and excavation 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 shipped at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Xenco Laboratories (Xenco) in Midland, Texas, for analysis of 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.

The combined excavations measured approximately 1,400 square feet in area with depths ranging from approximately 2.5 feet to 9 feet bgs. A total of approximately 650 cubic yards of impacted soil were removed from the excavations. The impacted soil was transported and properly disposed of at the R360 Landfill located in Hobbs, New Mexico.

## **ANALYTICAL RESULTS**

Laboratory analytical results for the delineation soil samples collected from potholes PH03, PH05, and PH08 through PH12, indicated that BTEX, TPH, and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical results indicated that chloride concentrations



exceeded the Closure Criteria in delineation soil samples collected from potholes PH01, PH02, PH04, PH06, and PH07. Based on laboratory analytical results for the delineation soil samples, impacted soil was excavated at those sample locations.

Laboratory analytical results for excavation sidewall samples SW02, SW03, SW06 through SW14 and SW16 through SW18, and excavation floor samples FS01 through FS07 indicated that BTEX, TPH, and chloride concentrations were compliant with the Closure Criteria and no further excavation was required in these areas.

Laboratory analytical results indicated that chloride concentrations initially exceeded the Closure Criteria in sidewall samples SW01 and SW15. Additional soil was excavated to the south of samples SW01 and SW15, and subsequent southern sidewall sample SW16 was compliant.

Laboratory analytical results indicated that chloride concentrations exceeded the Closure Criteria in sidewall samples SW04 and SW05. Further excavation of impacted soil north of sidewall samples SW04 and SW05 was limited by the presence of the active tank battery. XTO safety policy restricts soil disturbing activities to a 2-foot radius of active production equipment. This XTO safety policy is established to protect workers and reduce the likelihood of compromising the foundation of the production equipment. This policy was enforced where impacted soil was identified within 2 feet of the tank battery in sidewall samples SW04 and SW05. Discrete vertical delineation soil samples SW04A/SW04B/SW04C and SW05A/SW05B/SW05C/SW05D were collected from depths ranging from 4 feet bgs to 16 feet bgs under the northern sidewall of the excavation south of the tank battery containment to determine the maximum depth of impacted soil. Soil samples SW04C and SW05D, collected at depths of 16 feet and 14 feet, respectively, were compliant with the Closure Criteria and confirmed that impacted soil did not extent beyond 16 feet bgs.

Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 4.

### **DEFERRAL REQUEST**

A total of approximately 650 cubic yards of impacted soil were excavated from the Site; however, residual impacted soil was left in place for compliance with the XTO safety policy regarding earth moving activities within 2 feet of active production equipment. Impacted soil was excavated to the extent possible, and laboratory analytical results for excavation sidewall samples SW04/SW04A/SW04B and SW05/SW05A/SW05B/SW05C collected from depths ranging from the ground surface to 12 feet bgs, indicated that soil with chloride concentrations exceeding the Closure Criteria was left in place within 2 feet of an active tank battery.

The impacted soil remaining in place is delineated vertically by subsequent discrete sidewall samples SW04C and SW05D and floor samples FS01 through FS04. The impacted soil remaining



in place is delineated laterally by excavation soil samples SW02, SW03, SW06, SW16, and delineation samples from potholes PH05, PH08 through PH10, and PH12. Impacted soil is delineated to the north by the presence of a historical liner from prior remediation activities. An estimated 2,500 cubic yards of impacted soil remains in place around and beneath the tank battery, assuming a maximum 14-foot depth based on the excavation and delineation soil samples listed above that were compliant with the Closure Criteria.

XTO requests to backfill the excavations and complete final remediation during any future major construction/alteration or final plugging and abandonment, whichever occurs first. LTE and XTO do not believe deferment will result in imminent risk to human health, the environment, or groundwater. The impacted soil remaining in place is limited to the area immediately around and beneath the tank battery, and no saturated soil remains in-place. XTO requests deferral of final remediation for RP Number 2RP-2296. An updated NMOCD Form C-141 is included as Attachment 1.

If you have any questions or comments, please do not hesitate to contact Ms. Ashley Ager at (970) 385-1096.

Sincerely,

LT ENVIRONMENTAL, INC.

Korey Kennedy  
Project Environmental Scientist

Ashley L. Ager, P.G.  
Senior Geologist

cc: Kyle Littrell, XTO  
Mike Bratcher, NMOCD  
Ryan Mann, State Land Office

Attachments:

- Figure 1 Site Location Map
- Figure 2 Delineation Soil Sample Locations
- Figure 3 Excavation Soil Sample Locations
- Table 1 Soil Analytical Results
- Attachment 1 Initial/Final NMOCD Form C-141 (2RP-2296)
- Attachment 2 Lithologic / Soil Sample Logs
- Attachment 3 Photographic Log



Billings, B.  
Page 6

Attachment 4 Laboratory Analytical Reports

FIGURES



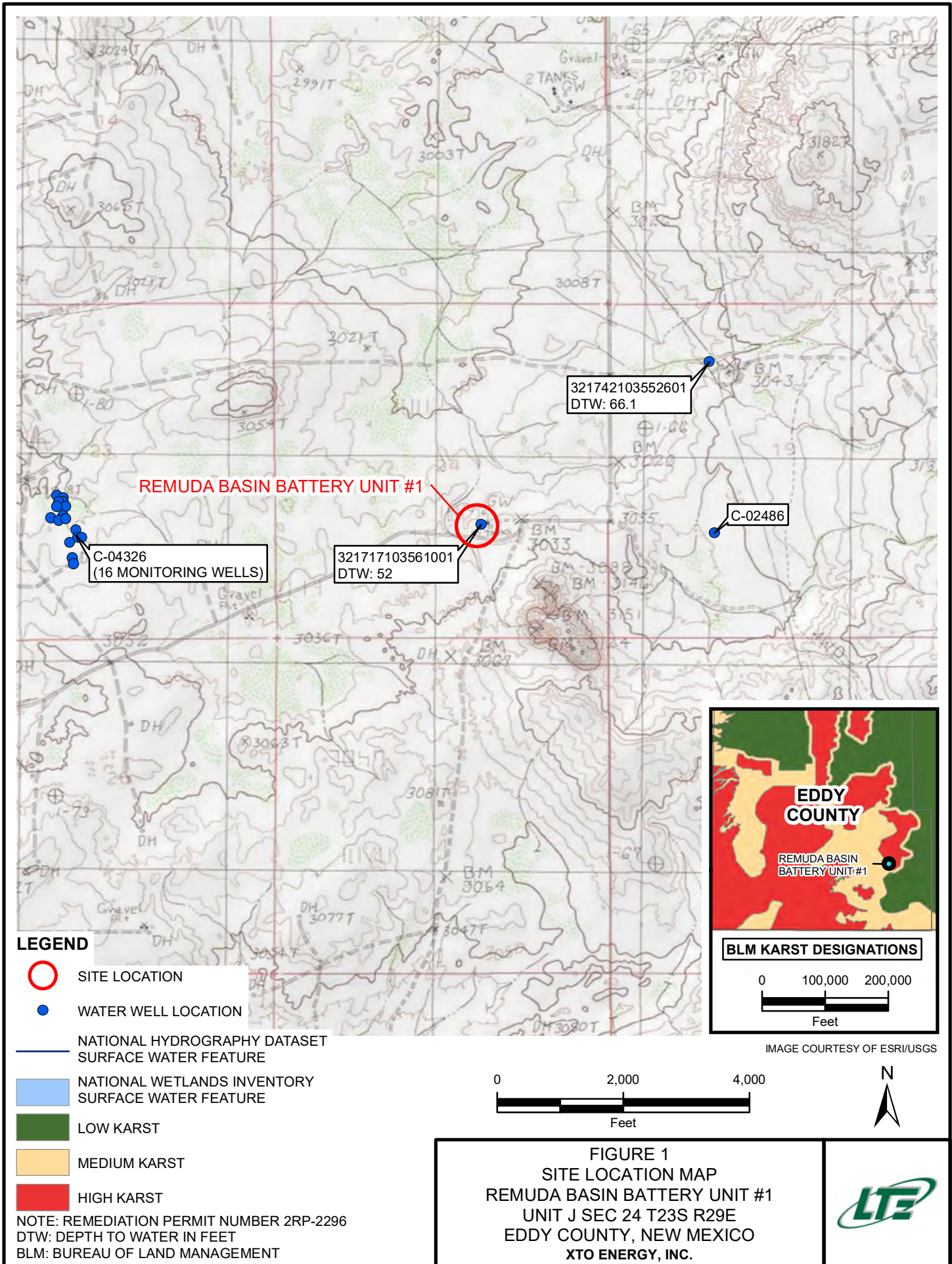
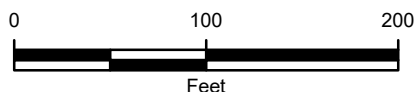




IMAGE COURTESY OF ESRI

**LEGEND**

- DELINEATION SOIL SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE CLOSURE CRITERIA
  - DELINEATION SOIL SAMPLE WITH CONCENTRATIONS PREVIOUSLY EXCEEDING APPLICABLE CLOSURE CRITERIA
  - DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
  - GAS LINE
  - APPROXIMATE HISTORICAL LINER EXTENT
  - TANK BATTERY CONTAINMENT BERM
- SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)  
 TEXT: INDICATES SOIL SAMPLE THAT WAS EXCAVATED  
 NOTE: REMEDIATION PERMIT NUMBER 2RP-2296



**FIGURE 2**  
 DELINEATION SOIL SAMPLE LOCATIONS  
 REMUDA BASIN BATTERY UNIT #1  
 UNIT J SEC 24 T23S R29E  
 EDDY COUNTY, NEW MEXICO  
 XTO ENERGY, INC.



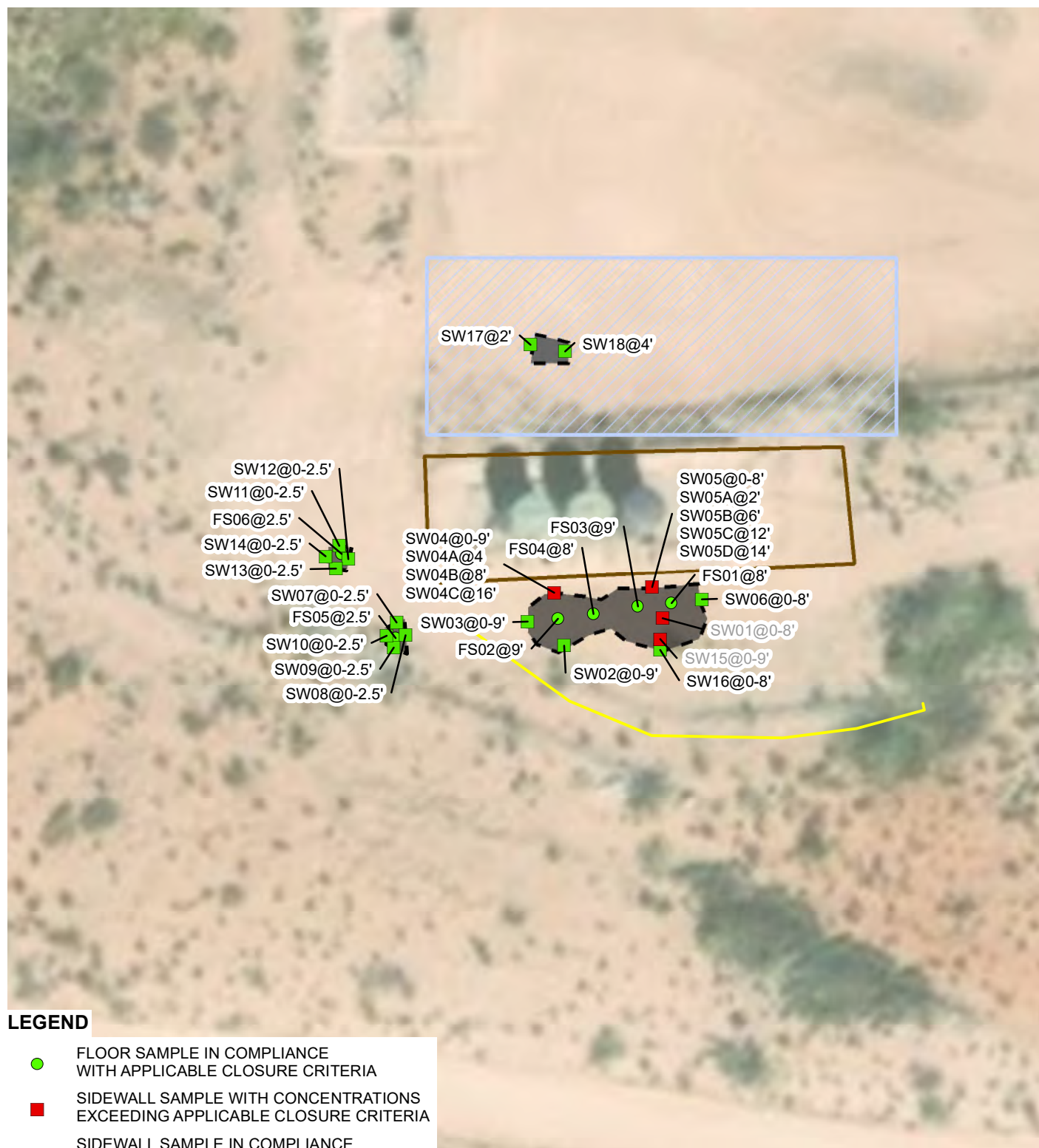
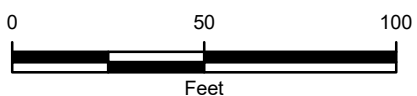


IMAGE COURTESY OF ESRI

**LEGEND**

- FLOOR SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
  - SIDEWALL SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE CLOSURE CRITERIA
  - SIDEWALL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
  - GAS LINE
  - EXCAVATION EXTENT
  - APPROXIMATE HISTORICAL LINER EXTENT
  - TANK BATTERY CONTAINMENT BERM
- SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)  
 TEXT: INDICATES SOIL SAMPLE THAT WAS EXCAVATED  
 NOTE: REMEDIATION PERMIT NUMBER 2RP-2296



**FIGURE 3**  
 EXCAVATION SOIL SAMPLE LOCATIONS  
 REMUDA BASIN BATTERY UNIT #1  
 UNIT J SEC 24 T23S R29E  
 EDDY COUNTY, NEW MEXICO  
 XTO ENERGY, INC.



TABLES



**TABLE 1  
SOIL ANALYTICAL RESULTS  
REMUDA BASIN BATTERY UNIT #1  
REMEDATION PERMIT NUMBER 2RP-2296  
EDDYCOUNTY, NEW MEXICO  
XTO ENERGY, INC.**

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
<b>NMOCD Table 1 Closure Criteria</b>			<b>10</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>50</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>100</b>	<b>600</b>
PH01	1	11/07/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<50.2	<50.2	<50.2	<50.2	<50.2	<b>6,850</b>
PH01A	2	11/07/2019	<0.000996	<0.000996	<0.000996	<0.000996	<0.000996	<50.2	<50.2	<50.2	<50.2	<50.2	<b>2,740</b>
PH01B	3	11/07/2019	<0.000998	<0.000998	<0.000998	<0.000998	<0.000998	<50.2	<50.2	<50.2	<50.2	<50.2	<b>4,250</b>
PH02	1	11/07/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.2	<50.2	<50.2	<50.2	<50.2	<b>2,770</b>
PH02A	2	11/07/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<49.9	<49.9	<49.9	<49.9	<49.9	<b>1,740</b>
PH02B	3	11/07/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<50.1	<50.1	<50.1	<50.1	<50.1	<b>2,250</b>
PH03	1	11/07/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<50.3	<50.3	<50.3	<50.3	<50.3	193
PH03A	2	11/07/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.1	<50.1	<50.1	<50.1	<50.1	127
PH03B	3	11/07/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<49.9	<49.9	<49.9	<49.9	<49.9	261
PH03C	4	11/07/2019	<0.00102	<0.00102	<0.00102	<0.00102	<0.00102	<50.2	<50.2	<50.2	<50.2	<50.2	184
PH04	1	11/07/2019	<0.000998	<0.000998	<0.000998	<0.000998	<0.000998	<49.8	<49.8	<49.8	<49.8	<49.8	<b>659</b>
PH04A	2	11/07/2019	<0.000990	<0.000990	<0.000990	<0.000990	<0.000990	<50.2	<50.2	<50.2	<50.2	<50.2	<b>719</b>
PH04B	3	11/07/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.3	<50.3	<50.3	<50.3	<50.3	314
PH04C	4	11/07/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<49.8	<49.8	<49.8	<49.8	<49.8	318
PH05	1	11/07/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.2	<50.2	<50.2	<50.2	<50.2	361
PH05A	2	11/07/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<50.1	<50.1	<50.1	<50.1	<50.1	574
PH06	1	11/07/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<49.9	<49.9	<49.9	<49.9	<49.9	292
PH06A	2	11/07/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.2	<50.2	<50.2	<50.2	<50.2	<b>1,610</b>
PH07	1	11/07/2019	<0.000996	<0.000996	<0.000996	<0.000996	<0.000996	<50.0	<50.0	<50.0	<50.0	<50.0	<b>943</b>
PH07A	2	11/07/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<50.0	<50.0	<50.0	<50.0	<50.0	585
PH07B	3	11/07/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<50.2	<50.2	<50.2	<50.2	<50.2	511
PH07C	4	11/07/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<50.1	<50.1	<50.1	<50.1	<50.1	334
PH08	1	11/07/2019	<0.000998	<0.000998	<0.000998	<0.000998	<0.000998	<50.1	<50.1	<50.1	<50.1	<50.1	377
PH08A	2	11/07/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<49.7	<49.7	<49.7	<49.7	<49.7	335
PH08B	3	11/07/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<50.3	<50.3	<50.3	<50.3	<50.3	373
PH08C	4	11/07/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.1	<50.1	<50.1	<50.1	<50.1	246
PH09	1	11/07/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.3	<50.3	<50.3	<50.3	<50.3	<1.00
PH09A	1.5	11/07/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<49.8	<49.8	<49.8	<49.8	<49.8	1.04



**TABLE 1  
SOIL ANALYTICAL RESULTS  
REMUDA BASIN BATTERY UNIT #1  
REMEDATION PERMIT NUMBER 2RP-2296  
EDDYCOUNTY, NEW MEXICO  
XTO ENERGY, INC.**

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
<b>NMOCDC Table 1 Closure Criteria</b>			<b>10</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>50</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>NE</b>	<b>100</b>	<b>600</b>
PH10	1	11/07/2019	<0.00100	<0.00100	<0.00100	<0.00100	<0.00100	<49.8	<49.8	<49.8	<49.8	<49.8	<1.00
PH10A	1.5	11/07/2019	<0.00101	<0.00101	<0.00101	<0.00101	<0.00101	<50.3	<50.3	<50.3	<50.3	<50.3	4.44
PH11	2	03/09/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.2	<50.2	<50.2	<50.2	<50.2	65.0
PH11A	3	03/09/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	93.9
PH11B	3.5	03/09/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.2	<50.2	<50.2	<50.2	<50.2	95.5
PH12	4	04/29/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.1	<50.1	<50.1	<50.1	<50.1	261
PH12A	9	04/29/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	219
FS01	8	01/17/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	325
FS02	9	01/17/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.1	<50.1	<50.1	<50.1	<50.1	264
FS03	9	01/17/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.3	<50.3	<50.3	<50.3	<50.3	451
FS04	8	01/17/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.3	<50.3	<50.3	<50.3	<50.3	285
FS05	2.5	01/20/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	242
FS06	2.5	01/20/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	<49.8	29.2
FS07	8	04/01/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	261
SW01	0 - 8	01/17/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.1	<50.1	<50.1	<50.1	<50.1	<b>650</b>
SW02	0 - 9	01/17/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.2	<50.2	<50.2	<50.2	<50.2	386
SW03	0 - 9	01/17/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.1	<50.1	<50.1	<50.1	<50.1	342
SW04	0 - 9	01/17/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.3	<50.3	<50.3	<50.3	<50.3	<b>1,600</b>
SW04A	4	04/01/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	<b>2,620</b>
SW04B	8	04/01/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.2	<50.2	<50.2	<50.2	<50.2	<b>2,100</b>
SW04C	16	04/28/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.8	<49.8	<49.8	<49.8	<49.8	191
SW05	0 - 8	01/17/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	<b>2,010</b>
SW05A	2	04/01/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.3	<50.3	<50.3	<50.3	<50.3	<b>2,280</b>
SW05B	6	04/01/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	<b>5,470</b>
SW05C	12	04/28/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	<b>651</b>
SW05D	14	04/28/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	362
SW06	0 - 8	01/17/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.2	<50.2	<50.2	<50.2	<50.2	457
SW07	0 - 2.5	01/20/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.3	<50.3	<50.3	<50.3	<50.3	30.4



**TABLE 1  
SOIL ANALYTICAL RESULTS  
REMUDA BASIN BATTERY UNIT #1  
REMIEDIATION PERMIT NUMBER 2RP-2296  
EDDYCOUNTY, NEW MEXICO  
XTO ENERGY, INC.**

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
<b>NMOCD Table 1 Closure Criteria</b>			<b>10</b>	NE	NE	NE	<b>50</b>	NE	NE	NE	NE	<b>100</b>	<b>600</b>
SW08	0 - 2.5	01/20/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.3	<50.3	<50.3	<50.3	<50.3	301
SW09	0 - 2.5	01/20/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.2	<50.2	<50.2	<50.2	<50.2	352
SW10	0 - 2.5	01/20/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	175
SW11	0 - 2.5	01/20/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	186
SW12	0 - 2.5	01/20/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.3	<50.3	<50.3	<50.3	<50.3	320
SW13	0 - 2.5	01/20/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	234
SW14	0 - 2.5	01/20/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.3	<50.3	<50.3	<50.3	<50.3	341
SW15	0 - 9	03/10/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	<b>852</b>
SW16	0 - 8	04/01/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	182
SW17	2	04/28/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	111
SW18	4	04/28/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.1	<50.1	<50.1	<50.1	<50.1	230

**Notes:**

bgs - below ground surface

BTEX - benzene, toluene, ethylbenzene, and total xylenes

DRO - diesel range organics

GRO - gasoline range organics

mg/kg - milligrams per kilogram

ORO - motor oil range organics

NMAC - New Mexico Administrative Code

NMOCD - New Mexico Oil Conservation Division

NE - not established

TPH - total petroleum hydrocarbons

**Bold** - indicates result exceeds the applicable regulatory standard

< - indicates result is below laboratory reporting limits

Table 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018

NA - not analyzed

Greyed data represent samples that were excavated



A proud member of WSP

ATTACHMENT 1: INITIAL/FINAL NIM OCD FORM C-141 (2RP-2296)

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

Form C-141  
Revised August 8, 2011

Submit 1 Copy to appropriate District Office in accordance with 19.15.29 NMAC.

**Release Notification and Corrective Action**

nHMP 14132405860 OPERATOR  Initial Report  Final Report

Name of Company: BOPCO, L.P. <u>260737</u>	Contact: Tony Savoie
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 575-887-7329
Facility Name: Remuda Basin Battery Unit #1	Facility Type: Exploration and Production

Surface Owner: State of N.M.	Mineral Owner: State of N.M.	API No. 30-015-03691
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**LOCATION OF RELEASE**

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	24	23S	29E	1980	South	198	East	Eddy

Latitude: N 32.288041 Longitude: W 103.936333

**NATURE OF RELEASE**

Type of Release: Produced water	Volume of Release: 15 bbls	Volume Recovered: None
Source of Release: Produced water storage tank	Date and Hour of Occurrence: 4/27/14 at 10 a.m.	Date and Hour of Discovery: 4/27/14 at 10 a.m.
Was Immediate Notice Given? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Not Required	If YES, To Whom?	
By Whom? Tony Savoie	Date and Hour 11/26/12 at 10:22 a.m.	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse	
If a Watercourse was Impacted, Describe Fully.*	<div style="border: 2px solid black; padding: 5px; text-align: center;"> <p><b>RECEIVED</b></p> <p>MAY 09 2014</p> <p><b>NMOCD ARTESIA</b></p> </div>	
Describe Cause of Problem and Remedial Action Taken. The produced water transfer pump failed to start due to blown fuses. The facility normally makes less than 100 bls of water per day. The water production for the day was three times the normal production; it is suspected that produced water was unloaded into the water storage tanks from an unknown source.		
Describe Area Affected and Cleanup Action Taken.* The spill impacted an area of approximately 900 sq.ft. inside the tank batteries earthen containment. There is a remediation underway at the facility dealing with an unauthorized release on the well pad and reserve pit. The affected area in the pasture will be remediated in accordance to the NMOCD guidelines.		
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: <u>Tony Savoie</u>	<b>OIL CONSERVATION DIVISION</b>	
Printed Name: Tony Savoie	Approved by Environmental Specialist: <u>[Signature]</u>	
Title: Waste Management and Remediation Specialist	Approval Date: <u>5/12/14</u>	Expiration Date: <u>NA</u>
E-mail Address: <u>tasavoie@basspet.com</u>	Conditions of Approval:	Attached <input type="checkbox"/>
Date: 5/8/14 Phone: 432-556-8730	Remediation per OCD Rule & Guidelines. <b>SUBMIT REMEDIATION PROPOSAL NO LATER THAN:</b>	

\* Attach Additional Sheets If Necessary

6/12/14

2RP-2296

District I  
1625 N. French Dr., Hobbs, NM 88240  
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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-2296
Facility ID	
Application ID	

## Release Notification

### Responsible Party

Responsible Party: XTO Energy, Inc	OGRID: 5380
Contact Name: Kyle Littrell	Contact Telephone: (432)-221-7331
Contact email: Kyle_Littrell@xtoenergy.com	Incident #: 2RP-2296
Contact mailing address: 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

### Location of Release Source

Latitude 32.288041 Longitude -103.936333  
*(NAD 83 in decimal degrees to 5 decimal places)*

Site Name Remuda Basin Battery Unit #1	Site Type Exploration and Production
Date Release Discovered 4/27/2014	API# (if applicable) 30-015-03691

Unit Letter	Section	Township	Range	County
J	24	23S	29E	Eddy

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

### Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 15 bbls	Volume Recovered (bbls) 0 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

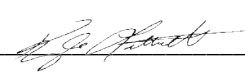
The produced water transfer pump failed to start due to blown fuses. The spill impacted an area approximately 900 sq.ft. inside the tank batteries earthen containment.

Incident ID	
District RP	2RP-2296
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?  <input type="checkbox"/> Yes <input checked="" 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?	

### 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&amp;E Supervisor</u> Signature:  Date: <u>5-12-2020</u> email: <u>Kyle.Littrell@xtoenergy.com</u> Telephone: <u>432-221-7331</u>
<b><u>OCD Only</u></b> Received by: _____ Date: _____

Incident ID	NHMP1413240586
District RP	2RP-2296
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?	_50-100 (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 checked="" type="checkbox"/> Yes <input 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 checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas <b>not</b> on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

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

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

- Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- Field data
- Data table of soil contaminant concentration data
- Depth to water determination
- Determination of water sources and significant watercourses within 1/2-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	[REDACTED]
District RP	2RP-2296
Facility ID	
Application ID	

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

Printed Name:                     Kyle Littrell                     Title:           SH&E Supervisor          

Signature:                     *[Handwritten Signature]*                     Date:           5/12/2020          

email:           Kyle\_Littrell@xtoenergy.com           Telephone:           (432)-221-7331          

**OCD Only**

Received by:                     [REDACTED]                     Date:           [REDACTED]

Incident ID	MP14132405
District RP	2RP-2296
Facility ID	
Application ID	

## Remediation Plan


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

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



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

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

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

Printed Name: Kyle Littrell Title: SH&E Supervisor  
 Signature:  Date: 5-12-2020  
 email: Kyle.Littrell@xtoenergy.com Telephone: (432)-221-7331

**OCD Only**

Received by:  Date: 

- Approved       Approved with Attached Conditions of Approval       Denied       Deferral Approved

Signature:  Date: 

ATTACHMENT 2: LITHOLOGIC / SOIL SAMPLE LOGS



**LT Environmental, Inc.**  
 508 West Stevens Street  
 Carlsbad, New Mexico 88220

Identifier: <b>PHA</b>	Date: <b>11.7.19</b>
Project Name: <b>Remede Basin #1</b>	RP Number: <b>ZRP-2296</b>
Logged By: <b>CL</b>	Method: <b>Truckhoe</b>
Hole Diameter: <b>—</b>	Total Depth: <b>3'</b>

**LITHOLOGIC / SOIL SAMPLING LOG**

Lat/Long: \_\_\_\_\_ Field Screening: **PID** **Chloride**

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
930	D 3864	0.0	N	PHD1	1	1	CCHIE	1-3 Caliche, tan, off white, no stain, no odor
945	D 1170	0.2	N	PHD1A	2	2		
1000	D 3864	0.0	N	PHD1B	3	3		
					4			TP @ 3' - Refusal
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			



**LT Environmental, Inc.**  
 508 West Stevens Street  
 Carlsbad, New Mexico 88220

Identifier: PH02	Date: 11.7.19
Project Name: Remuda Basin #1	RP Number: ZRP-2296
Logged By: SL	Method: Truckhoe
Hole Diameter:	Total Depth: 3

**LITHOLOGIC / SOIL SAMPLING LOG**

Lat/Long: \_\_\_\_\_ Field Screening: PID Chloride

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			1-3
1020 D	7.4 3248	1.2	N	PH02	1	1	CL	Clayey sand, brown, no stain, no odor, low plasticity, low cohesiveness, G-F sands, well sorted, some caliche
1030 D	5.0 1372	1.0	N	PH02A	2	2		
1040 D	5.8 1848	0.7	N	PH02B	3	3		
					4			TD @ 3, Refusal
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			



**LT Environmental, Inc.**  
 508 West Stevens Street  
 Carlsbad, New Mexico 88220

Identifier: **PH03** Date: **11.7.19**  
 Project Name: **Remuda Basin #1** RP Number: **2RP-2296**


**LITHOLOGIC / SOIL SAMPLING LOG**


Logged By: **JL** Method: **Truckler**  
 Hole Diameter: Total Depth: **4**


Lat/Long: Field Screening: **PID Chloride**


Comments:


Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
<b>1135</b>	D 2179	0.2	N	PH03	1	1	SP-SM	1-1 sand with quite a bit brown m-f, poorly graded, no odor, no stain above silt
<b>1150</b>	D 2179	0.0	N	PH03A	2	2	SP-SM	2-4 sand, brown, m-f, no stain, no odor, poorly graded,
<b>1260</b>	D 2179	0.0	N	PH03B	3	3		
<b>1220</b>	D 2179	0.0	N	PH03C	4	4		
					5			TOE 4'
					6			
					7			
					8			
					9			
					10			
					11			
					12			


 <p style="text-align: center;"><b>LT Environmental, Inc.</b> 508 West Stevens Street Carlsbad, New Mexico 88220</p>		Identifier: <b>PH04</b>	Date: <b>11-7-19</b>					
		Project Name: <b>Remuda Basin #1</b>	RP Number: <b>2RP-2296</b>					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								
Lat/Long:		Field Screening: <b>PID Chloride</b>	Logged By: <b>SL</b>					
		Hole Diameter:	Method: <b>Trackhoe</b>					
			Total Depth: <b>4'</b>					
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
1245	D	554	0.0	N	PH04	1	SP-SM	<sup>1</sup> Sand, Brown, m-f, no odor, no stain, poorly graded trace silt
1300	D	554	0.0	N	PH04A	2	CLHE	<sup>2</sup> Caliche, off white, tan, no stain no odor
1310	D	252	0.0	N	PH04B	3	SP-SM	Sand, Brown, m-f, no odor, no stain, poorly graded trace silt
1320	D	252	0.0	N	PH04C	4		
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			


		<b>LT Environmental, Inc.</b> 508 West Stevens Street Carlsbad, New Mexico 88220		Identifier: PH05		Date: 11.7.19		
				Project Name: Remuda Basin #1		RP Number: ZRP-2296		
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>				Logged By: <i>SL</i>		Method: <i>Trackhole</i>		
Lat/Long:		Field Screening: PID Chloride		Hole Diameter:		Total Depth: <i>2'</i>		
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
<i>1340</i>	<i>2.4</i> <i>386</i>	<i>0.0</i>	<i>N</i>	<i>PH05</i>	<i>1</i>	<i>1</i>	<i>SP-SM</i>	<i>1-1 sand, brown, in-layers, graded, no odor, no stain, track silt</i>
<i>1400</i>	<i>3.0</i> <i>554</i>	<i>0.0</i>	<i>N</i>	<i>PH05A</i>	<i>2</i>	<i>2</i>	<i>CCHE</i>	<i>2-2 calc. ls, tan, off white, no odor, no stain</i>
					<i>3</i>			<i>TD @ 2'-refusal</i>
					<i>4</i>			
					<i>5</i>			
					<i>6</i>			
					<i>7</i>			
					<i>8</i>			
					<i>9</i>			
					<i>10</i>			
					<i>11</i>			
					<i>12</i>			

		<b>LT Environmental, Inc.</b> 508 West Stevens Street Carlsbad, New Mexico 88220			Identifier: PH06		Date: 11-7-19	
					Project Name: Remuda Basin #1		RP Number: 2RP-2296	
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>					Logged By: SL		Method: Trackhoe	
Lat/Long:			Field Screening: (PID) (Chloride)			Hole Diameter:		Total Depth: 1.5'
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1420 D	4 207	0.2	N	PH06	0	1	CCHE	1-1.5 Caliche, offwhite, tan, no odor, no staining <del>PH06</del>
1440 D	3 554	0.2		PH06A	1	1.5		
					2			TD @ 1.5'
					3			
					4			
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

 <p style="text-align: center;"><b>LT Environmental, Inc.</b> 508 West Stevens Street Carlsbad, New Mexico 88220</p>		Identifier: <b>PH07</b>	Date: <b>11.7.19</b>					
		Project Name: <b>Remuda Basin #1</b>	RP Number: <b>2RP-2296</b>					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>								
Lat/Long:		Field Screening: <b>PID</b> <b>Chloride</b>	Logged By: <b>SL</b>					
		Hole Diameter:	Method: <b>Trachoe</b>					
			Total Depth: <b>4'</b>					
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
1500	D 437	0.0	N	PH07	1	1		1-4
1510	D 437	0.0	N	PH07A	2	2	SP-sm	Sand, Brown, no stain → no odor, m-f, poorly graded, trace caliche & trace silt
1520	D 437	0.0	N	PH07B	3	3		
1530	D 297	0.0	N	PH07c	4	4		
					5			TD @ 4'
					6			
					7			
					8			
					9			
					10			
					11			
					12			

		<b>LT Environmental, Inc.</b> 508 West Stevens Street Carlsbad, New Mexico 88220		Identifier: <u>PH08</u>		Date: <u>11-7-19</u>		
				Project Name: <u>Remuda Basin #1</u>		RP Number: <u>2RP-2296</u>		
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>				Logged By: <u>SL</u>		Method: <u>Trackha</u>		
Lat/Long:		Field Screening: <u>PID</u> <u>Chloride</u>		Hole Diameter:		Total Depth: <u>y</u>		
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1550	D <179	0.0	N	PH08	0	1	CLHE	1-1 caliche, off white, fm, gray, no odor, no stain
1600	D <179	0.1	N	PH08A	2	2	SP-SM	2-4 sand brown, light brown, no stain, no odor, m-f, poorly graded, trace caliche, trace silt
1610	D <199	0.0	N	PH08B	3	3		
1620	D 1.8 252	0.0	N	PH08C	4	4		
					5			TO @ 4
					6			
					7			
					8			
					9			
					10			
					11			
					12			

 <p style="text-align: center;"><b>LT Environmental, Inc.</b> 508 West Stevens Street Carlsbad, New Mexico 88220</p>		Identifier: <i>PH09</i>	Date: <i>11.7.19</i>					
		Project Name: <i>Remuda Basin #1</i>	RP Number: <i>2RP-2296</i>					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>		Logged By: <i>SL</i>	Method: <i>Trackha</i>					
Lat/Long:	Field Screening: <u>PID</u> <u>Chloride</u>	Hole Diameter: <i>—</i>	Total Depth: <i>1.5'</i>					
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
<i>1640</i>	<i>&lt;179</i>	<i>0.0</i>	<i>N</i>	<i>PH09</i>	<i>1</i>	<i>1</i>	<i>CLAY</i>	<i>1-1.5</i> <i>Calc. no odor, no stain, off white, tan,</i>
<i>1650</i>	<i>179</i>	<i>0.0</i>	<i>N</i>	<i>PH09A</i>	<i>1</i>	<i>1.5</i>		
					2			<i>1.5'-TO - red soil</i>
					3			
					4			
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			

 <p style="text-align: center;"><b>LT Environmental, Inc.</b> 508 West Stevens Street Carlsbad, New Mexico 88220</p>		Identifier: <b>PH10</b>	Date: <b>11.7.19</b>					
		Project Name: <b>Remuda Basin #1</b>	RP Number: <b>22P-2296</b>					
<b>LITHOLOGIC / SOIL SAMPLING LOG</b>		Logged By: <b>SL</b>	Method: <b>Track hoe</b>					
Lat/Long:	Field Screening: PID Chloride	Hole Diameter: <b>—</b>	Total Depth: <b>1.5</b>					
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1700	<170	0.0	2	PH10	0	i	CLHE	Caliche, tan off white, no odor, no stain
1710	<179	0.0	2	PH10A	1	1.5		
								To @ 1.5' - retest
					2			
					3			
					4			
					5			
					6			
					7			
					8			
					9			
					10			
					11			
					12			



**LT Environmental, Inc.**  
 508 West Stevens Street  
 Carlsbad, New Mexico 88220

A proud member  
 of WSP

Compliance · Engineering · Remediation

BH or PH Name:

PH 11

Date:

03-09-2020

Site Name: REMUDA BASIN BATTERY #1

RP or Incident Number: 2RP-2296

LTE Job Number: D12918058

**LITHOLOGIC / SOIL SAMPLING LOG**

Logged By: C. ACBOR

Method: POthOLE

Lat/Long:

32.288041 -103.936333

Field Screening:

Chloride, PID

Hole Diameter:

Total Depth:

3.5

Comments:

Exposed LINER AT 3.5'

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
BDL	BDL	0.0	NO	PH 10	2		SM	Dark gray, poorly sorted, organics, no odor, no stain ↓ LINER WAS EXPOSED @ 3.5'
		0.2		PH 10A	3		SM	
		0.0		PH 10B	3.5		SM	

CA

ATTACHMENT 3: PHOTOGRAPHIC LOG



PHOTOGRAPHIC LOG



**Photograph 1:** View of loading area – looking east.



**Photograph 2:** View of pad and excavation – looking west



**Photograph 3:** View of tank battery and excavation - looking north west.



**Photograph 4:** View of open excavation – looking east.

ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS



# Analytical Report 642596

for

**LT Environmental, Inc.**

**Project Manager: Dan Moir**

**Remuda Basin #1**

**12-NOV-19**

Collected By: Client



**1089 N Canal Street  
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)  
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)

Xenco-Carlsbad (LELAP): Louisiana (05092)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)

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

Xenco-Tampa: Florida (E87429), North Carolina (483)



12-NOV-19

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

Reference: XENCO Report No(s): **642596**  
**Remuda Basin #1**  
Project Address:

**Dan Moir:**

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) 642596. 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. 642596 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,

**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 642596

## LT Environmental, Inc., Arvada, CO

## Remuda Basin #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	11-07-19 09:30	1 ft	642596-001
PH01A	S	11-07-19 09:45	2 ft	642596-002
PH01B	S	11-07-19 10:00	3 ft	642596-003
PH02	S	11-07-19 10:20	1 ft	642596-004
PH02A	S	11-07-19 10:30	2 ft	642596-005
PH02B	S	11-07-19 10:40	3 ft	642596-006
PH03	S	11-07-19 11:35	1 ft	642596-007
PH03A	S	11-07-19 11:50	2 ft	642596-008
PH03B	S	11-07-19 12:00	3 ft	642596-009
PH03C	S	11-07-19 12:20	4 ft	642596-010
PH04	S	11-07-19 12:45	1 ft	642596-011
PH04A	S	11-07-19 13:00	2 ft	642596-012
PH04B	S	11-07-19 13:10	3 ft	642596-013
PH04C	S	11-07-19 13:20	4 ft	642596-014
PH05	S	11-07-19 13:40	1 ft	642596-015
PH05A	S	11-07-19 14:00	2 ft	642596-016
PH06	S	11-07-19 14:20	1 ft	642596-017
PH06A	S	11-07-19 14:40	2 ft	642596-018
PH07	S	11-07-19 15:00	1 ft	642596-019
PH07A	S	11-07-19 15:10	2 ft	642596-020
PH07B	S	11-07-19 15:20	3 ft	642596-021
PH07C	S	11-07-19 15:30	4 ft	642596-022
PH08	S	11-07-19 15:50	1 ft	642596-023
PH08A	S	11-07-19 16:00	2 ft	642596-024
PH08B	S	11-07-19 16:10	3 ft	642596-025
PH08C	S	11-07-19 16:20	4 ft	642596-026
PH09	S	11-07-19 16:40	1 ft	642596-027
PH09A	S	11-07-19 16:50	1.5 ft	642596-028
PH10	S	11-07-19 17:00	1 ft	642596-029
PH10A	S	11-07-19 17:10	1.5 ft	642596-030



# CASE NARRATIVE

**Client Name: LT Environmental, Inc.**

**Project Name: Remuda Basin #1**

Project ID:  
Work Order Number(s): 642596

Report Date: 12-NOV-19  
Date Received: 11/08/2019

**Sample receipt non conformances and comments:**

None

**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3106914 TPH by SW8015 Mod

Surrogate 1-Chlorooctane, Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 642594-001 S,642596-001.

Batch: LBA-3106935 BTEX by EPA 8021B

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

Batch: LBA-3106973 BTEX by EPA 8021B

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

Batch: LBA-3106983 Chloride by EPA 300

Lab Sample ID 642596-022 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 642596-012, -013, -014, -015, -016, -017, -018, -019, -020, -021, -022, -023, -024, -025, -026, -027, -028, -029, -030.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3106997 TPH by SW8015 Mod

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

Samples affected are: 642596-017,642596-023.

Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 642596-023.



# Certificate of Analysis Summary 642596

LT Environmental, Inc., Arvada, CO

Project Name: Remuda Basin #1

**Project Id:**  
**Contact:** Dan Moir  
**Project Location:**

**Date Received in Lab:** Fri Nov-08-19 08:51 am  
**Report Date:** 12-NOV-19  
**Project Manager:** Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	642596-001	642596-002	642596-003	642596-004	642596-005	642596-006
	<i>Field Id:</i>	PH01	PH01A	PH01B	PH02	PH02A	PH02B
	<i>Depth:</i>	1- ft	2- ft	3- ft	1- ft	2- ft	3- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Nov-07-19 09:30	Nov-07-19 09:45	Nov-07-19 10:00	Nov-07-19 10:20	Nov-07-19 10:30	Nov-07-19 10:40
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Nov-08-19 09:50	Nov-08-19 09:50	Nov-08-19 09:50	Nov-08-19 09:50	Nov-08-19 09:50	Nov-08-19 09:50
	<i>Analyzed:</i>	Nov-08-19 12:42	Nov-08-19 13:01	Nov-08-19 13:21	Nov-08-19 13:40	Nov-08-19 13:59	Nov-08-19 14:18
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Benzene	<0.00100 0.00100	<0.000996 0.000996	<0.000998 0.000998	<0.00101 0.00101	<0.00100 0.00100	<0.00100 0.00100
	Toluene	<0.00100 0.00100	<0.000996 0.000996	<0.000998 0.000998	<0.00101 0.00101	<0.00100 0.00100	<0.00100 0.00100
	Ethylbenzene	<0.00100 0.00100	<0.000996 0.000996	<0.000998 0.000998	<0.00101 0.00101	<0.00100 0.00100	<0.00100 0.00100
	m,p-Xylenes	<0.00201 0.00201	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200
	o-Xylene	<0.00100 0.00100	<0.000996 0.000996	<0.000998 0.000998	<0.00101 0.00101	<0.00100 0.00100	<0.00100 0.00100
Total Xylenes	<0.00100 0.00100	<0.000996 0.000996	<0.000998 0.000998	<0.00101 0.00101	<0.00100 0.00100	<0.00100 0.00100	
Total BTEX	<0.00100 0.00100	<0.000996 0.000996	<0.000998 0.000998	<0.00101 0.00101	<0.00100 0.00100	<0.00100 0.00100	
<b>Chloride by EPA 300</b>	<i>Extracted:</i>	Nov-08-19 10:11	Nov-08-19 10:11	Nov-08-19 10:11	Nov-08-19 10:11	Nov-08-19 10:11	Nov-08-19 10:11
	<i>Analyzed:</i>	Nov-08-19 13:42	Nov-08-19 13:48	Nov-08-19 14:06	Nov-08-19 14:12	Nov-08-19 14:18	Nov-08-19 14:24
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride	6850 500	2740 500	4250 500	2770 500	1740 200	2250 500	
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Nov-08-19 12:00	Nov-08-19 12:00	Nov-08-19 12:00	Nov-08-19 12:00	Nov-08-19 12:00	Nov-08-19 12:00
	<i>Analyzed:</i>	Nov-08-19 16:55	Nov-08-19 17:34	Nov-08-19 17:54	Nov-08-19 18:14	Nov-08-19 18:33	Nov-08-19 18:53
	<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)	<50.2 50.2	<50.2 50.2	<50.2 50.2	<50.2 50.2	<49.9 49.9	<50.1 50.1
	Diesel Range Organics (DRO)	<50.2 50.2	<50.2 50.2	<50.2 50.2	<50.2 50.2	<49.9 49.9	<50.1 50.1
	Motor Oil Range Hydrocarbons (MRO)	<50.2 50.2	<50.2 50.2	<50.2 50.2	<50.2 50.2	<49.9 49.9	<50.1 50.1
	Total GRO-DRO	<50.2 50.2	<50.2 50.2	<50.2 50.2	<50.2 50.2	<49.9 49.9	<50.1 50.1
	Total TPH	<50.2 50.2	<50.2 50.2	<50.2 50.2	<50.2 50.2	<49.9 49.9	<50.1 50.1

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Jessica Kramer  
 Project Assistant



# Certificate of Analysis Summary 642596

LT Environmental, Inc., Arvada, CO

Project Name: Remuda Basin #1

**Project Id:**  
**Contact:** Dan Moir  
**Project Location:**

**Date Received in Lab:** Fri Nov-08-19 08:51 am  
**Report Date:** 12-NOV-19  
**Project Manager:** Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	642596-007	642596-008	642596-009	642596-010	642596-011	642596-012
	<i>Field Id:</i>	PH03	PH03A	PH03B	PH03C	PH04	PH04A
	<i>Depth:</i>	1- ft	2- ft	3- ft	4- ft	1- ft	2- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Nov-07-19 11:35	Nov-07-19 11:50	Nov-07-19 12:00	Nov-07-19 12:20	Nov-07-19 12:45	Nov-07-19 13:00
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Nov-08-19 09:50	Nov-08-19 09:50	Nov-08-19 09:50	Nov-08-19 09:50	Nov-08-19 09:50	Nov-08-19 09:50
	<i>Analyzed:</i>	Nov-08-19 14:37	Nov-08-19 14:56	Nov-08-19 16:00	Nov-08-19 16:19	Nov-08-19 16:38	Nov-08-19 16:57
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Benzene	<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.00102 0.00102	<0.000998 0.000998	<0.000990 0.000990
	Toluene	<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.00102 0.00102	<0.000998 0.000998	<0.000990 0.000990
	Ethylbenzene	<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.00102 0.00102	<0.000998 0.000998	<0.000990 0.000990
	m,p-Xylenes	<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00203 0.00203	<0.00200 0.00200	<0.00198 0.00198
	o-Xylene	<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.00102 0.00102	<0.000998 0.000998	<0.000990 0.000990
Total Xylenes	<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.00102 0.00102	<0.000998 0.000998	<0.000990 0.000990	
Total BTEX	<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.00102 0.00102	<0.000998 0.000998	<0.000990 0.000990	
<b>Chloride by EPA 300</b>	<i>Extracted:</i>	Nov-08-19 10:11	Nov-08-19 10:11	Nov-08-19 10:11	Nov-08-19 10:11	Nov-08-19 10:11	Nov-08-19 11:11
	<i>Analyzed:</i>	Nov-08-19 14:30	Nov-08-19 14:48	Nov-08-19 14:54	Nov-08-19 15:00	Nov-08-19 15:06	Nov-08-19 15:47
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride	193 100	127 50.0	261 10.0	184 10.0	659 50.0	719 50.0	
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Nov-08-19 12:00	Nov-08-19 12:00	Nov-08-19 12:00	Nov-08-19 12:00	Nov-08-19 12:00	Nov-08-19 13:00
	<i>Analyzed:</i>	Nov-08-19 19:13	Nov-08-19 19:32	Nov-08-19 19:52	Nov-08-19 20:12	Nov-08-19 20:31	Nov-08-19 13:00
	<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)	<50.3 50.3	<50.1 50.1	<49.9 49.9	<50.2 50.2	<49.8 49.8	<50.2 50.2
	Diesel Range Organics (DRO)	<50.3 50.3	<50.1 50.1	<49.9 49.9	<50.2 50.2	<49.8 49.8	<50.2 50.2
	Motor Oil Range Hydrocarbons (MRO)	<50.3 50.3	<50.1 50.1	<49.9 49.9	<50.2 50.2	<49.8 49.8	<50.2 50.2
	Total GRO-DRO	<50.3 50.3	<50.1 50.1	<49.9 49.9	<50.2 50.2	<49.8 49.8	<50.2 50.2
	Total TPH	<50.3 50.3	<50.1 50.1	<49.9 49.9	<50.2 50.2	<49.8 49.8	<50.2 50.2

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Jessica Kramer  
 Project Assistant



# Certificate of Analysis Summary 642596

LT Environmental, Inc., Arvada, CO

Project Name: Remuda Basin #1

**Project Id:**  
**Contact:** Dan Moir  
**Project Location:**

**Date Received in Lab:** Fri Nov-08-19 08:51 am  
**Report Date:** 12-NOV-19  
**Project Manager:** Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	642596-013	642596-014	642596-015	642596-016	642596-017	642596-018
	<i>Field Id:</i>	PH04B	PH04C	PH05	PH05A	PH06	PH06A
	<i>Depth:</i>	3- ft	4- ft	1- ft	2- ft	1- ft	2- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Nov-07-19 13:10	Nov-07-19 13:20	Nov-07-19 13:40	Nov-07-19 14:00	Nov-07-19 14:20	Nov-07-19 14:40
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Nov-08-19 09:50	Nov-08-19 09:50	Nov-08-19 09:50	Nov-08-19 09:50	Nov-08-19 09:50	Nov-08-19 09:50
	<i>Analyzed:</i>	Nov-08-19 17:16	Nov-08-19 17:36	Nov-08-19 17:55	Nov-08-19 18:14	Nov-08-19 18:33	Nov-08-19 18:52
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Benzene	<0.00101 0.00101	<0.00100 0.00100	<0.00101 0.00101	<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101
	Toluene	<0.00101 0.00101	<0.00100 0.00100	<0.00101 0.00101	<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101
	Ethylbenzene	<0.00101 0.00101	<0.00100 0.00100	<0.00101 0.00101	<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101
	m,p-Xylenes	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201
	o-Xylene	<0.00101 0.00101	<0.00100 0.00100	<0.00101 0.00101	<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101
Total Xylenes	<0.00101 0.00101	<0.00100 0.00100	<0.00101 0.00101	<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	
Total BTEX	<0.00101 0.00101	<0.00100 0.00100	<0.00101 0.00101	<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	
<b>Chloride by EPA 300</b>	<i>Extracted:</i>	Nov-08-19 11:11	Nov-08-19 11:11	Nov-08-19 11:11	Nov-08-19 11:11	Nov-08-19 11:11	Nov-08-19 11:11
	<i>Analyzed:</i>	Nov-08-19 16:15	Nov-08-19 16:22	Nov-08-19 16:28	Nov-08-19 16:35	Nov-08-19 16:42	Nov-08-19 17:02
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		314 10.0	318 50.0	361 200	574 200	292 D 100	1610 500
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Nov-08-19 13:00	Nov-08-19 13:00	Nov-08-19 13:00	Nov-08-19 13:00	Nov-08-19 13:00	Nov-08-19 13:00
	<i>Analyzed:</i>	Nov-08-19 13:59	Nov-08-19 14:19	Nov-08-19 14:39	Nov-08-19 15:03	Nov-08-19 21:10	Nov-08-19 21:30
	<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)	<50.3 50.3	<49.8 49.8	<50.2 50.2	<50.1 50.1	<49.9 49.9	<50.2 50.2
	Diesel Range Organics (DRO)	<50.3 50.3	<49.8 49.8	<50.2 50.2	<50.1 50.1	<49.9 49.9	<50.2 50.2
	Motor Oil Range Hydrocarbons (MRO)	<50.3 50.3	<49.8 49.8	<50.2 50.2	<50.1 50.1	<49.9 49.9	<50.2 50.2
	Total GRO-DRO	<50.3 50.3	<49.8 49.8	<50.2 50.2	<50.1 50.1	<49.9 49.9	<50.2 50.2
	Total TPH	<50.3 50.3	<49.8 49.8	<50.2 50.2	<50.1 50.1	<49.9 49.9	<50.2 50.2

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Jessica Kramer  
 Project Assistant



# Certificate of Analysis Summary 642596

LT Environmental, Inc., Arvada, CO

Project Name: Remuda Basin #1

**Project Id:**  
**Contact:** Dan Moir  
**Project Location:**

**Date Received in Lab:** Fri Nov-08-19 08:51 am  
**Report Date:** 12-NOV-19  
**Project Manager:** Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	642596-019	642596-020	642596-021	642596-022	642596-023	642596-024
	<i>Field Id:</i>	PH07	PH07A	PH07B	PH07C	PH08	PH08A
	<i>Depth:</i>	1- ft	2- ft	3- ft	4- ft	1- ft	2- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Nov-07-19 15:00	Nov-07-19 15:10	Nov-07-19 15:20	Nov-07-19 15:30	Nov-07-19 15:50	Nov-07-19 16:00
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Nov-08-19 09:11	Nov-08-19 09:11	Nov-08-19 09:11	Nov-08-19 09:11	Nov-08-19 09:11	Nov-08-19 09:11
	<i>Analyzed:</i>	Nov-08-19 15:35	Nov-08-19 15:55	Nov-08-19 16:16	Nov-08-19 17:31	Nov-08-19 17:52	Nov-08-19 18:12
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
	Benzene	<0.000996 0.000996	<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.000998 0.000998	<0.00101 0.00101
	Toluene	<0.000996 0.000996	<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.000998 0.000998	<0.00101 0.00101
	Ethylbenzene	<0.000996 0.000996	<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.000998 0.000998	<0.00101 0.00101
	m,p-Xylenes	<0.00199 0.00199	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202
	o-Xylene	<0.000996 0.000996	<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.000998 0.000998	<0.00101 0.00101
Total Xylenes	<0.000996 0.000996	<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.000998 0.000998	<0.00101 0.00101	
Total BTEX	<0.000996 0.000996	<0.00100 0.00100	<0.00100 0.00100	<0.00100 0.00100	<0.000998 0.000998	<0.00101 0.00101	
<b>Chloride by EPA 300</b>	<i>Extracted:</i>	Nov-08-19 11:11	Nov-08-19 11:11	Nov-08-19 11:11	Nov-08-19 11:11	Nov-08-19 11:11	Nov-08-19 11:11
	<i>Analyzed:</i>	Nov-08-19 17:09	Nov-08-19 17:16	Nov-08-19 17:23	Nov-08-19 17:29	Nov-08-19 17:50	Nov-08-19 17:56
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride	943 500	585 500	511 500	334 D 100	377 D 100	335 D 100	
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Nov-08-19 13:00	Nov-08-19 13:00	Nov-08-19 13:00	Nov-08-19 13:00	Nov-08-19 13:00	Nov-08-19 13:00
	<i>Analyzed:</i>	Nov-08-19 21:50	Nov-08-19 16:23	Nov-08-19 16:55	Nov-08-19 17:34	Nov-08-19 17:54	Nov-08-19 18:14
	<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)	<50.0 50.0	<50.0 50.0	<50.2 50.2	<50.1 50.1	<50.1 50.1	<49.7 49.7
	Diesel Range Organics (DRO)	<50.0 50.0	<50.0 50.0	<50.2 50.2	<50.1 50.1	<50.1 50.1	<49.7 49.7
	Motor Oil Range Hydrocarbons (MRO)	<50.0 50.0	<50.0 50.0	<50.2 50.2	<50.1 50.1	<50.1 50.1	<49.7 49.7
	Total GRO-DRO	<50.0 50.0	<50.0 50.0	<50.2 50.2	<50.1 50.1	<50.1 50.1	<49.7 49.7
	Total TPH	<50.0 50.0	<50.0 50.0	<50.2 50.2	<50.1 50.1	<50.1 50.1	<49.7 49.7

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Jessica Kramer  
 Project Assistant



# Certificate of Analysis Summary 642596

LT Environmental, Inc., Arvada, CO

Project Name: Remuda Basin #1

**Project Id:**  
**Contact:** Dan Moir  
**Project Location:**

**Date Received in Lab:** Fri Nov-08-19 08:51 am  
**Report Date:** 12-NOV-19  
**Project Manager:** Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	642596-025	642596-026	642596-027	642596-028	642596-029	642596-030
	<i>Field Id:</i>	PH08B	PH08C	PH09	PH09A	PH10	PH10A
	<i>Depth:</i>	3- ft	4- ft	1- ft	1.5- ft	1- ft	1.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Nov-07-19 16:10	Nov-07-19 16:20	Nov-07-19 16:40	Nov-07-19 16:50	Nov-07-19 17:00	Nov-07-19 17:10
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Nov-08-19 09:11	Nov-08-19 09:11	Nov-08-19 09:11	Nov-08-19 09:11	Nov-08-19 09:11	Nov-08-19 09:11
	<i>Analyzed:</i>	Nov-08-19 18:32	Nov-08-19 18:53	Nov-08-19 19:13	Nov-08-19 19:33	Nov-08-19 19:54	Nov-08-19 20:14
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.00100 0.00100	<0.00100 0.00100	<0.00101 0.00101
Toluene		<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.00100 0.00100	<0.00100 0.00100	<0.00101 0.00101
Ethylbenzene		<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.00100 0.00100	<0.00100 0.00100	<0.00101 0.00101
m,p-Xylenes		<0.00200 0.00200	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202
o-Xylene		<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.00100 0.00100	<0.00100 0.00100	<0.00101 0.00101
Total Xylenes		<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.00100 0.00100	<0.00100 0.00100	<0.00101 0.00101
Total BTEX		<0.00100 0.00100	<0.00101 0.00101	<0.00101 0.00101	<0.00100 0.00100	<0.00100 0.00100	<0.00101 0.00101
<b>Chloride by EPA 300</b>	<i>Extracted:</i>	Nov-08-19 11:11	Nov-08-19 11:11	Nov-08-19 11:11	Nov-08-19 11:11	Nov-08-19 11:11	Nov-08-19 11:11
	<i>Analyzed:</i>	Nov-08-19 18:17	Nov-08-19 18:23	Nov-08-19 18:30	Nov-08-19 18:37	Nov-08-19 18:44	Nov-08-19 18:51
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		373 D 50.0	246 D 50.0	<1.00 1.00	1.04 1.00	<1.00 1.00	4.44 1.00
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Nov-08-19 13:00	Nov-08-19 13:00	Nov-08-19 13:00	Nov-08-19 13:00	Nov-08-19 13:00	Nov-08-19 13:00
	<i>Analyzed:</i>	Nov-08-19 18:33	Nov-08-19 18:53	Nov-08-19 19:13	Nov-08-19 19:32	Nov-08-19 19:52	Nov-08-19 20:12
	<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)		<50.3 50.3	<50.1 50.1	<50.3 50.3	<49.8 49.8	<49.8 49.8	<50.3 50.3
Diesel Range Organics (DRO)		<50.3 50.3	<50.1 50.1	<50.3 50.3	<49.8 49.8	<49.8 49.8	<50.3 50.3
Motor Oil Range Hydrocarbons (MRO)		<50.3 50.3	<50.1 50.1	<50.3 50.3	<49.8 49.8	<49.8 49.8	<50.3 50.3
Total GRO-DRO		<50.3 50.3	<50.1 50.1	<50.3 50.3	<49.8 49.8	<49.8 49.8	<50.3 50.3
Total TPH		<50.3 50.3	<50.1 50.1	<50.3 50.3	<49.8 49.8	<49.8 49.8	<50.3 50.3

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Jessica Kramer  
 Project Assistant



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **PH01** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-001 Date Collected: 11.07.19 09.30 Sample Depth: 1 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 10.11 Basis: Wet Weight  
 Seq Number: 3106922

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6850	500	mg/kg	11.08.19 13.42		50

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 12.00 Basis: Wet Weight  
 Seq Number: 3106914

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.08.19 16.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.08.19 16.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.08.19 16.55	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.08.19 16.55	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.08.19 16.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	143	%	70-135	11.08.19 16.55	**
o-Terphenyl	84-15-1	148	%	70-135	11.08.19 16.55	**



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH01</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-001	Date Collected: 11.07.19 09.30	Sample Depth: 1 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.50	Basis: Wet Weight
Seq Number: 3106935		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.08.19 12.42	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.08.19 12.42	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.08.19 12.42	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	11.08.19 12.42	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.08.19 12.42	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.08.19 12.42	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.08.19 12.42	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	103	%	70-130	11.08.19 12.42		
4-Bromofluorobenzene	460-00-4	118	%	70-130	11.08.19 12.42		



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **PH01A** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-002 Date Collected: 11.07.19 09.45 Sample Depth: 2 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 10.11 Basis: Wet Weight  
 Seq Number: 3106922

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2740	500	mg/kg	11.08.19 13.48		50

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 12.00 Basis: Wet Weight  
 Seq Number: 3106914

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.08.19 17.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.08.19 17.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.08.19 17.34	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.08.19 17.34	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.08.19 17.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	11.08.19 17.34	
o-Terphenyl	84-15-1	111	%	70-135	11.08.19 17.34	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH01A</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-002	Date Collected: 11.07.19 09.45	Sample Depth: 2 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.50	Basis: Wet Weight
Seq Number: 3106935		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000996	0.000996	mg/kg	11.08.19 13.01	U	1
Toluene	108-88-3	<0.000996	0.000996	mg/kg	11.08.19 13.01	U	1
Ethylbenzene	100-41-4	<0.000996	0.000996	mg/kg	11.08.19 13.01	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	11.08.19 13.01	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	11.08.19 13.01	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	11.08.19 13.01	U	1
Total BTEX		<0.000996	0.000996	mg/kg	11.08.19 13.01	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>		<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>
4-Bromofluorobenzene	460-00-4	123		%	70-130	11.08.19 13.01	
1,4-Difluorobenzene	540-36-3	103		%	70-130	11.08.19 13.01	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **PH01B** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-003 Date Collected: 11.07.19 10.00 Sample Depth: 3 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 10.11 Basis: Wet Weight  
 Seq Number: 3106922

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4250	500	mg/kg	11.08.19 14.06		50

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 12.00 Basis: Wet Weight  
 Seq Number: 3106914

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.08.19 17.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.08.19 17.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.08.19 17.54	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.08.19 17.54	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.08.19 17.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	11.08.19 17.54	
o-Terphenyl	84-15-1	117	%	70-135	11.08.19 17.54	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH01B</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-003	Date Collected: 11.07.19 10.00	Sample Depth: 3 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.50	Basis: Wet Weight
Seq Number: 3106935		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000998	0.000998	mg/kg	11.08.19 13.21	U	1
Toluene	108-88-3	<0.000998	0.000998	mg/kg	11.08.19 13.21	U	1
Ethylbenzene	100-41-4	<0.000998	0.000998	mg/kg	11.08.19 13.21	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.08.19 13.21	U	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	11.08.19 13.21	U	1
Total Xylenes	1330-20-7	<0.000998	0.000998	mg/kg	11.08.19 13.21	U	1
Total BTEX		<0.000998	0.000998	mg/kg	11.08.19 13.21	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	119	%	70-130	11.08.19 13.21		
1,4-Difluorobenzene	540-36-3	106	%	70-130	11.08.19 13.21		



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO Remuda Basin #1

Sample Id: **PH02** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-004 Date Collected: 11.07.19 10.20 Sample Depth: 1 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 10.11 Basis: Wet Weight  
 Seq Number: 3106922

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2770	500	mg/kg	11.08.19 14.12		50

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 12.00 Basis: Wet Weight  
 Seq Number: 3106914

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.08.19 18.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.08.19 18.14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.08.19 18.14	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.08.19 18.14	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.08.19 18.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	11.08.19 18.14	
o-Terphenyl	84-15-1	107	%	70-135	11.08.19 18.14	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH02</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-004	Date Collected: 11.07.19 10.20	Sample Depth: 1 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.50	Basis: Wet Weight
Seq Number: 3106935		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.08.19 13.40	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.08.19 13.40	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.08.19 13.40	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.08.19 13.40	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.08.19 13.40	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.08.19 13.40	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.08.19 13.40	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	105	%	70-130	11.08.19 13.40		
4-Bromofluorobenzene	460-00-4	121	%	70-130	11.08.19 13.40		



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO Remuda Basin #1

Sample Id: **PH02A** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-005 Date Collected: 11.07.19 10.30 Sample Depth: 2 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 10.11 Basis: Wet Weight  
 Seq Number: 3106922

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1740	200	mg/kg	11.08.19 14.18		20

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 12.00 Basis: Wet Weight  
 Seq Number: 3106914

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.08.19 18.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	11.08.19 18.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.08.19 18.33	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	11.08.19 18.33	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	11.08.19 18.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	11.08.19 18.33	
o-Terphenyl	84-15-1	109	%	70-135	11.08.19 18.33	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH02A</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-005	Date Collected: 11.07.19 10.30	Sample Depth: 2 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.50	Basis: Wet Weight
Seq Number: 3106935		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.08.19 13.59	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.08.19 13.59	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.08.19 13.59	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	11.08.19 13.59	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.08.19 13.59	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.08.19 13.59	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.08.19 13.59	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	120	%	70-130	11.08.19 13.59		
1,4-Difluorobenzene	540-36-3	104	%	70-130	11.08.19 13.59		



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO Remuda Basin #1

Sample Id: **PH02B** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-006 Date Collected: 11.07.19 10.40 Sample Depth: 3 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 10.11 Basis: Wet Weight  
 Seq Number: 3106922

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2250	500	mg/kg	11.08.19 14.24		50

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 12.00 Basis: Wet Weight  
 Seq Number: 3106914

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.08.19 18.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.08.19 18.53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.08.19 18.53	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	11.08.19 18.53	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.08.19 18.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	11.08.19 18.53	
o-Terphenyl	84-15-1	108	%	70-135	11.08.19 18.53	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH02B</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-006	Date Collected: 11.07.19 10.40	Sample Depth: 3 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.50	Basis: Wet Weight
Seq Number: 3106935		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.08.19 14.18	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.08.19 14.18	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.08.19 14.18	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.08.19 14.18	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.08.19 14.18	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.08.19 14.18	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.08.19 14.18	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	105	%	70-130	11.08.19 14.18		
4-Bromofluorobenzene	460-00-4	121	%	70-130	11.08.19 14.18		



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **PH03** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-007 Date Collected: 11.07.19 11.35 Sample Depth: 1 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 10.11 Basis: Wet Weight  
 Seq Number: 3106922

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	193	100	mg/kg	11.08.19 14.30		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 12.00 Basis: Wet Weight  
 Seq Number: 3106914

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	11.08.19 19.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	11.08.19 19.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	11.08.19 19.13	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	11.08.19 19.13	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	11.08.19 19.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	11.08.19 19.13	
o-Terphenyl	84-15-1	110	%	70-135	11.08.19 19.13	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH03</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-007	Date Collected: 11.07.19 11.35	Sample Depth: 1 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.50	Basis: Wet Weight
Seq Number: 3106935		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.08.19 14.37	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.08.19 14.37	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.08.19 14.37	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	11.08.19 14.37	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.08.19 14.37	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.08.19 14.37	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.08.19 14.37	U	1
			%				
<b>Surrogate</b>	<b>Cas Number</b>	<b>Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	119	%	70-130	11.08.19 14.37		
1,4-Difluorobenzene	540-36-3	106	%	70-130	11.08.19 14.37		



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **PH03A** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-008 Date Collected: 11.07.19 11.50 Sample Depth: 2 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 10.11 Basis: Wet Weight  
 Seq Number: 3106922

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	127	50.0	mg/kg	11.08.19 14.48		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 12.00 Basis: Wet Weight  
 Seq Number: 3106914

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.08.19 19.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.08.19 19.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.08.19 19.32	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	11.08.19 19.32	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.08.19 19.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	11.08.19 19.32	
o-Terphenyl	84-15-1	110	%	70-135	11.08.19 19.32	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH03A</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-008	Date Collected: 11.07.19 11.50	Sample Depth: 2 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.50	Basis: Wet Weight
Seq Number: 3106935		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.08.19 14.56	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.08.19 14.56	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.08.19 14.56	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.08.19 14.56	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.08.19 14.56	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.08.19 14.56	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.08.19 14.56	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>		<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>
4-Bromofluorobenzene	460-00-4	121		%	70-130	11.08.19 14.56	
1,4-Difluorobenzene	540-36-3	105		%	70-130	11.08.19 14.56	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO Remuda Basin #1

Sample Id: **PH03B** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-009 Date Collected: 11.07.19 12.00 Sample Depth: 3 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 10.11 Basis: Wet Weight  
 Seq Number: 3106922

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	261	10.0	mg/kg	11.08.19 14.54		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 12.00 Basis: Wet Weight  
 Seq Number: 3106914

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.08.19 19.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	11.08.19 19.52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.08.19 19.52	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	11.08.19 19.52	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	11.08.19 19.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	11.08.19 19.52	
o-Terphenyl	84-15-1	118	%	70-135	11.08.19 19.52	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH03B</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-009	Date Collected: 11.07.19 12.00	Sample Depth: 3 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.50	Basis: Wet Weight
Seq Number: 3106935		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.08.19 16.00	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.08.19 16.00	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.08.19 16.00	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.08.19 16.00	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.08.19 16.00	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.08.19 16.00	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.08.19 16.00	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	110	%	70-130	11.08.19 16.00		
1,4-Difluorobenzene	540-36-3	103	%	70-130	11.08.19 16.00		



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO Remuda Basin #1

Sample Id: **PH03C** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-010 Date Collected: 11.07.19 12.20 Sample Depth: 4 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 10.11 Basis: Wet Weight  
 Seq Number: 3106922

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	184	10.0	mg/kg	11.08.19 15.00		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 12.00 Basis: Wet Weight  
 Seq Number: 3106914

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.08.19 20.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.08.19 20.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.08.19 20.12	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.08.19 20.12	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.08.19 20.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	11.08.19 20.12	
o-Terphenyl	84-15-1	114	%	70-135	11.08.19 20.12	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH03C</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-010	Date Collected: 11.07.19 12.20	Sample Depth: 4 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.50	Basis: Wet Weight
Seq Number: 3106935		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00102	0.00102	mg/kg	11.08.19 16.19	U	1
Toluene	108-88-3	<0.00102	0.00102	mg/kg	11.08.19 16.19	U	1
Ethylbenzene	100-41-4	<0.00102	0.00102	mg/kg	11.08.19 16.19	U	1
m,p-Xylenes	179601-23-1	<0.00203	0.00203	mg/kg	11.08.19 16.19	U	1
o-Xylene	95-47-6	<0.00102	0.00102	mg/kg	11.08.19 16.19	U	1
Total Xylenes	1330-20-7	<0.00102	0.00102	mg/kg	11.08.19 16.19	U	1
Total BTEX		<0.00102	0.00102	mg/kg	11.08.19 16.19	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	117	%	70-130	11.08.19 16.19		
1,4-Difluorobenzene	540-36-3	104	%	70-130	11.08.19 16.19		



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **PH04** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-011 Date Collected: 11.07.19 12.45 Sample Depth: 1 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 10.11 Basis: Wet Weight  
 Seq Number: 3106922

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	659	50.0	mg/kg	11.08.19 15.06		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 12.00 Basis: Wet Weight  
 Seq Number: 3106914

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.08.19 20.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.08.19 20.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.08.19 20.31	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	11.08.19 20.31	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.08.19 20.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	11.08.19 20.31	
o-Terphenyl	84-15-1	113	%	70-135	11.08.19 20.31	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH04</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-011	Date Collected: 11.07.19 12.45	Sample Depth: 1 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.50	Basis: Wet Weight
Seq Number: 3106935		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000998	0.000998	mg/kg	11.08.19 16.38	U	1
Toluene	108-88-3	<0.000998	0.000998	mg/kg	11.08.19 16.38	U	1
Ethylbenzene	100-41-4	<0.000998	0.000998	mg/kg	11.08.19 16.38	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.08.19 16.38	U	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	11.08.19 16.38	U	1
Total Xylenes	1330-20-7	<0.000998	0.000998	mg/kg	11.08.19 16.38	U	1
Total BTEX		<0.000998	0.000998	mg/kg	11.08.19 16.38	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	114	%	70-130	11.08.19 16.38		
1,4-Difluorobenzene	540-36-3	106	%	70-130	11.08.19 16.38		



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO Remuda Basin #1

Sample Id: **PH04A** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-012 Date Collected: 11.07.19 13.00 Sample Depth: 2 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 11.11 Basis: Wet Weight  
 Seq Number: 3106983

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	719	50.0	mg/kg	11.08.19 15.47		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 13.00 Basis: Wet Weight  
 Seq Number: 3106997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.08.19 13.00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.08.19 13.00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.08.19 13.00	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.08.19 13.00	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.08.19 13.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	11.08.19 13.00	
o-Terphenyl	84-15-1	105	%	70-135	11.08.19 13.00	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH04A</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-012	Date Collected: 11.07.19 13.00	Sample Depth: 2 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.50	Basis: Wet Weight
Seq Number: 3106935		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000990	0.000990	mg/kg	11.08.19 16.57	U	1
Toluene	108-88-3	<0.000990	0.000990	mg/kg	11.08.19 16.57	U	1
Ethylbenzene	100-41-4	<0.000990	0.000990	mg/kg	11.08.19 16.57	U	1
m,p-Xylenes	179601-23-1	<0.00198	0.00198	mg/kg	11.08.19 16.57	U	1
o-Xylene	95-47-6	<0.000990	0.000990	mg/kg	11.08.19 16.57	U	1
Total Xylenes	1330-20-7	<0.000990	0.000990	mg/kg	11.08.19 16.57	U	1
Total BTEX		<0.000990	0.000990	mg/kg	11.08.19 16.57	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>		<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>
4-Bromofluorobenzene	460-00-4	115		%	70-130	11.08.19 16.57	
1,4-Difluorobenzene	540-36-3	104		%	70-130	11.08.19 16.57	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO Remuda Basin #1

Sample Id: **PH04B** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-013 Date Collected: 11.07.19 13.10 Sample Depth: 3 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 11.11 Basis: Wet Weight  
 Seq Number: 3106983

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	314	10.0	mg/kg	11.08.19 16.15		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 13.00 Basis: Wet Weight  
 Seq Number: 3106997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	11.08.19 13.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	11.08.19 13.59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	11.08.19 13.59	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	11.08.19 13.59	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	11.08.19 13.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	76	%	70-135	11.08.19 13.59	
o-Terphenyl	84-15-1	85	%	70-135	11.08.19 13.59	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH04B</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-013	Date Collected: 11.07.19 13.10	Sample Depth: 3 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.50	Basis: Wet Weight
Seq Number: 3106935		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.08.19 17.16	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.08.19 17.16	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.08.19 17.16	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.08.19 17.16	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.08.19 17.16	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.08.19 17.16	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.08.19 17.16	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>		<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>
4-Bromofluorobenzene	460-00-4	112		%	70-130	11.08.19 17.16	
1,4-Difluorobenzene	540-36-3	102		%	70-130	11.08.19 17.16	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO Remuda Basin #1

Sample Id: **PH04C** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-014 Date Collected: 11.07.19 13.20 Sample Depth: 4 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 11.11 Basis: Wet Weight  
 Seq Number: 3106983

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	318	50.0	mg/kg	11.08.19 16.22		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 13.00 Basis: Wet Weight  
 Seq Number: 3106997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.08.19 14.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.08.19 14.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.08.19 14.19	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	11.08.19 14.19	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.08.19 14.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-135	11.08.19 14.19	
o-Terphenyl	84-15-1	85	%	70-135	11.08.19 14.19	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH04C</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-014	Date Collected: 11.07.19 13.20	Sample Depth: 4 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.50	Basis: Wet Weight
Seq Number: 3106935		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.08.19 17.36	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.08.19 17.36	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.08.19 17.36	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	11.08.19 17.36	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.08.19 17.36	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.08.19 17.36	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.08.19 17.36	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	105	%	70-130	11.08.19 17.36		
4-Bromofluorobenzene	460-00-4	117	%	70-130	11.08.19 17.36		



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **PH05** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-015 Date Collected: 11.07.19 13.40 Sample Depth: 1 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 11.11 Basis: Wet Weight  
 Seq Number: 3106983

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	361	200	mg/kg	11.08.19 16.28		20

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 13.00 Basis: Wet Weight  
 Seq Number: 3106997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.08.19 14.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.08.19 14.39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.08.19 14.39	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.08.19 14.39	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.08.19 14.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	11.08.19 14.39	
o-Terphenyl	84-15-1	97	%	70-135	11.08.19 14.39	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH05</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-015	Date Collected: 11.07.19 13.40	Sample Depth: 1 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.50	Basis: Wet Weight
Seq Number: 3106935		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.08.19 17.55	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.08.19 17.55	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.08.19 17.55	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.08.19 17.55	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.08.19 17.55	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.08.19 17.55	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.08.19 17.55	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	106	%	70-130	11.08.19 17.55		
4-Bromofluorobenzene	460-00-4	123	%	70-130	11.08.19 17.55		



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO Remuda Basin #1

Sample Id: **PH05A** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-016 Date Collected: 11.07.19 14.00 Sample Depth: 2 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 11.11 Basis: Wet Weight  
 Seq Number: 3106983

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	574	200	mg/kg	11.08.19 16.35		20

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 13.00 Basis: Wet Weight  
 Seq Number: 3106997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.08.19 15.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.08.19 15.03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.08.19 15.03	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	11.08.19 15.03	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.08.19 15.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	11.08.19 15.03	
o-Terphenyl	84-15-1	125	%	70-135	11.08.19 15.03	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH05A</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-016	Date Collected: 11.07.19 14.00	Sample Depth: 2 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.50	Basis: Wet Weight
Seq Number: 3106935		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.08.19 18.14	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.08.19 18.14	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.08.19 18.14	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	11.08.19 18.14	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.08.19 18.14	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.08.19 18.14	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.08.19 18.14	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	115	%	70-130	11.08.19 18.14		
1,4-Difluorobenzene	540-36-3	105	%	70-130	11.08.19 18.14		



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO Remuda Basin #1

Sample Id: **PH06** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-017 Date Collected: 11.07.19 14.20 Sample Depth: 1 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 11.11 Basis: Wet Weight  
 Seq Number: 3106983

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	292	100	mg/kg	11.11.19 10.08	D	10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 13.00 Basis: Wet Weight  
 Seq Number: 3106997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.08.19 21.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	11.08.19 21.10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.08.19 21.10	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	11.08.19 21.10	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	11.08.19 21.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	11.08.19 21.10	
o-Terphenyl	84-15-1	137	%	70-135	11.08.19 21.10	**



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH06</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-017	Date Collected: 11.07.19 14.20	Sample Depth: 1 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.50	Basis: Wet Weight
Seq Number: 3106935		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.08.19 18.33	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.08.19 18.33	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.08.19 18.33	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.08.19 18.33	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.08.19 18.33	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.08.19 18.33	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.08.19 18.33	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	120	%	70-130	11.08.19 18.33		
1,4-Difluorobenzene	540-36-3	105	%	70-130	11.08.19 18.33		



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO Remuda Basin #1

Sample Id: **PH06A** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-018 Date Collected: 11.07.19 14.40 Sample Depth: 2 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 11.11 Basis: Wet Weight  
 Seq Number: 3106983

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1610	500	mg/kg	11.08.19 17.02		50

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 13.00 Basis: Wet Weight  
 Seq Number: 3106997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.08.19 21.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.08.19 21.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.08.19 21.30	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.08.19 21.30	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.08.19 21.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	11.08.19 21.30	
o-Terphenyl	84-15-1	118	%	70-135	11.08.19 21.30	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH06A</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-018	Date Collected: 11.07.19 14.40	Sample Depth: 2 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.50	Basis: Wet Weight
Seq Number: 3106935		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.08.19 18.52	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.08.19 18.52	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.08.19 18.52	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	11.08.19 18.52	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.08.19 18.52	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.08.19 18.52	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.08.19 18.52	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	119	%	70-130	11.08.19 18.52		
1,4-Difluorobenzene	540-36-3	104	%	70-130	11.08.19 18.52		



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO Remuda Basin #1

Sample Id: **PH07** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-019 Date Collected: 11.07.19 15.00 Sample Depth: 1 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 11.11 Basis: Wet Weight  
 Seq Number: 3106983

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	943	500	mg/kg	11.08.19 17.09		50

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 13.00 Basis: Wet Weight  
 Seq Number: 3106997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.08.19 21.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	11.08.19 21.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.08.19 21.50	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	11.08.19 21.50	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	11.08.19 21.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	11.08.19 21.50	
o-Terphenyl	84-15-1	114	%	70-135	11.08.19 21.50	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH07</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-019	Date Collected: 11.07.19 15.00	Sample Depth: 1 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.11	Basis: Wet Weight
Seq Number: 3106973		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000996	0.000996	mg/kg	11.08.19 15.35	U	1
Toluene	108-88-3	<0.000996	0.000996	mg/kg	11.08.19 15.35	U	1
Ethylbenzene	100-41-4	<0.000996	0.000996	mg/kg	11.08.19 15.35	U	1
m,p-Xylenes	179601-23-1	<0.00199	0.00199	mg/kg	11.08.19 15.35	U	1
o-Xylene	95-47-6	<0.000996	0.000996	mg/kg	11.08.19 15.35	U	1
Total Xylenes	1330-20-7	<0.000996	0.000996	mg/kg	11.08.19 15.35	U	1
Total BTEX		<0.000996	0.000996	mg/kg	11.08.19 15.35	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>		<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>
4-Bromofluorobenzene	460-00-4	108		%	70-130	11.08.19 15.35	
1,4-Difluorobenzene	540-36-3	104		%	70-130	11.08.19 15.35	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **PH07A** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-020 Date Collected: 11.07.19 15.10 Sample Depth: 2 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 11.11 Basis: Wet Weight  
 Seq Number: 3106983

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	585	500	mg/kg	11.08.19 17.16		50

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 13.00 Basis: Wet Weight  
 Seq Number: 3106997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.08.19 16.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	11.08.19 16.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.08.19 16.23	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	11.08.19 16.23	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	11.08.19 16.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	11.08.19 16.23	
o-Terphenyl	84-15-1	126	%	70-135	11.08.19 16.23	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH07A</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-020	Date Collected: 11.07.19 15.10	Sample Depth: 2 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.11	Basis: Wet Weight
Seq Number: 3106973		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.08.19 15.55	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.08.19 15.55	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.08.19 15.55	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	11.08.19 15.55	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.08.19 15.55	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.08.19 15.55	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.08.19 15.55	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	112	%	70-130	11.08.19 15.55		
1,4-Difluorobenzene	540-36-3	105	%	70-130	11.08.19 15.55		



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **PH07B** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-021 Date Collected: 11.07.19 15.20 Sample Depth: 3 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 11.11 Basis: Wet Weight  
 Seq Number: 3106983

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	511	500	mg/kg	11.08.19 17.23		50

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 13.00 Basis: Wet Weight  
 Seq Number: 3106997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.08.19 16.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.08.19 16.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.08.19 16.55	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.08.19 16.55	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.08.19 16.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	75	%	70-135	11.08.19 16.55	
o-Terphenyl	84-15-1	71	%	70-135	11.08.19 16.55	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH07B</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-021	Date Collected: 11.07.19 15.20	Sample Depth: 3 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.11	Basis: Wet Weight
Seq Number: 3106973		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.08.19 16.16	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.08.19 16.16	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.08.19 16.16	U	1
m,p-Xylenes	179601-23-1	<0.00201	0.00201	mg/kg	11.08.19 16.16	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.08.19 16.16	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.08.19 16.16	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.08.19 16.16	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	102	%	70-130	11.08.19 16.16		
4-Bromofluorobenzene	460-00-4	107	%	70-130	11.08.19 16.16		



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **PH07C** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-022 Date Collected: 11.07.19 15.30 Sample Depth: 4 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 11.11 Basis: Wet Weight  
 Seq Number: 3106983

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	334	100	mg/kg	11.11.19 10.42	D	10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 13.00 Basis: Wet Weight  
 Seq Number: 3106997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.08.19 17.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.08.19 17.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.08.19 17.34	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	11.08.19 17.34	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.08.19 17.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	76	%	70-135	11.08.19 17.34	
o-Terphenyl	84-15-1	84	%	70-135	11.08.19 17.34	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH07C</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-022	Date Collected: 11.07.19 15.30	Sample Depth: 4 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.11	Basis: Wet Weight
Seq Number: 3106973		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.08.19 17.31	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.08.19 17.31	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.08.19 17.31	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.08.19 17.31	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.08.19 17.31	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.08.19 17.31	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.08.19 17.31	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	102	%	70-130	11.08.19 17.31		
4-Bromofluorobenzene	460-00-4	107	%	70-130	11.08.19 17.31		



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **PH08** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-023 Date Collected: 11.07.19 15.50 Sample Depth: 1 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 11.11 Basis: Wet Weight  
 Seq Number: 3106983

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	377	100	mg/kg	11.11.19 10.49	D	10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 13.00 Basis: Wet Weight  
 Seq Number: 3106997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.08.19 17.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.08.19 17.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.08.19 17.54	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	11.08.19 17.54	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.08.19 17.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	170	%	70-135	11.08.19 17.54	**
o-Terphenyl	84-15-1	187	%	70-135	11.08.19 17.54	**



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH08</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-023	Date Collected: 11.07.19 15.50	Sample Depth: 1 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.11	Basis: Wet Weight
Seq Number: 3106973		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.000998	0.000998	mg/kg	11.08.19 17.52	U	1
Toluene	108-88-3	<0.000998	0.000998	mg/kg	11.08.19 17.52	U	1
Ethylbenzene	100-41-4	<0.000998	0.000998	mg/kg	11.08.19 17.52	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.08.19 17.52	U	1
o-Xylene	95-47-6	<0.000998	0.000998	mg/kg	11.08.19 17.52	U	1
Total Xylenes	1330-20-7	<0.000998	0.000998	mg/kg	11.08.19 17.52	U	1
Total BTEX		<0.000998	0.000998	mg/kg	11.08.19 17.52	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	111	%	70-130	11.08.19 17.52		
1,4-Difluorobenzene	540-36-3	101	%	70-130	11.08.19 17.52		



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **PH08A** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-024 Date Collected: 11.07.19 16.00 Sample Depth: 2 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 11.11 Basis: Wet Weight  
 Seq Number: 3106983

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	335	100	mg/kg	11.11.19 10.55	D	10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 13.00 Basis: Wet Weight  
 Seq Number: 3106997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.7	49.7	mg/kg	11.08.19 18.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.7	49.7	mg/kg	11.08.19 18.14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.7	49.7	mg/kg	11.08.19 18.14	U	1
Total GRO-DRO	PHC628	<49.7	49.7	mg/kg	11.08.19 18.14	U	1
Total TPH	PHC635	<49.7	49.7	mg/kg	11.08.19 18.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-135	11.08.19 18.14	
o-Terphenyl	84-15-1	74	%	70-135	11.08.19 18.14	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH08A</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-024	Date Collected: 11.07.19 16.00	Sample Depth: 2 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.11	Basis: Wet Weight
Seq Number: 3106973		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.08.19 18.12	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.08.19 18.12	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.08.19 18.12	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.08.19 18.12	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.08.19 18.12	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.08.19 18.12	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.08.19 18.12	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	116	%	70-130	11.08.19 18.12		
1,4-Difluorobenzene	540-36-3	104	%	70-130	11.08.19 18.12		



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **PH08B** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-025 Date Collected: 11.07.19 16.10 Sample Depth: 3 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 11.11 Basis: Wet Weight  
 Seq Number: 3106983

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	373	50.0	mg/kg	11.11.19 11.02	D	5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 13.00 Basis: Wet Weight  
 Seq Number: 3106997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	11.08.19 18.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	11.08.19 18.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	11.08.19 18.33	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	11.08.19 18.33	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	11.08.19 18.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-135	11.08.19 18.33	
o-Terphenyl	84-15-1	84	%	70-135	11.08.19 18.33	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH08B</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-025	Date Collected: 11.07.19 16.10	Sample Depth: 3 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.11	Basis: Wet Weight
Seq Number: 3106973		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.08.19 18.32	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.08.19 18.32	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.08.19 18.32	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.08.19 18.32	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.08.19 18.32	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.08.19 18.32	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.08.19 18.32	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	102	%	70-130	11.08.19 18.32		
4-Bromofluorobenzene	460-00-4	108	%	70-130	11.08.19 18.32		



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **PH08C** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-026 Date Collected: 11.07.19 16.20 Sample Depth: 4 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 11.11 Basis: Wet Weight  
 Seq Number: 3106983

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	246	50.0	mg/kg	11.11.19 11.22	D	5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 13.00 Basis: Wet Weight  
 Seq Number: 3106997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.08.19 18.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.08.19 18.53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.08.19 18.53	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	11.08.19 18.53	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.08.19 18.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	11.08.19 18.53	
o-Terphenyl	84-15-1	77	%	70-135	11.08.19 18.53	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH08C</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-026	Date Collected: 11.07.19 16.20	Sample Depth: 4 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.11	Basis: Wet Weight
Seq Number: 3106973		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.08.19 18.53	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.08.19 18.53	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.08.19 18.53	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.08.19 18.53	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.08.19 18.53	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.08.19 18.53	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.08.19 18.53	U	1
			%				
<b>Surrogate</b>	<b>Cas Number</b>	<b>Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	101	%	70-130	11.08.19 18.53		
4-Bromofluorobenzene	460-00-4	111	%	70-130	11.08.19 18.53		



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **PH09** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-027 Date Collected: 11.07.19 16.40 Sample Depth: 1 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 11.11 Basis: Wet Weight  
 Seq Number: 3106983

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<1.00	1.00	mg/kg	11.11.19 11.29	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 13.00 Basis: Wet Weight  
 Seq Number: 3106997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	11.08.19 19.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	11.08.19 19.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	11.08.19 19.13	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	11.08.19 19.13	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	11.08.19 19.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	11.08.19 19.13	
o-Terphenyl	84-15-1	105	%	70-135	11.08.19 19.13	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH09</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-027	Date Collected: 11.07.19 16.40	Sample Depth: 1 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.11	Basis: Wet Weight
Seq Number: 3106973		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.08.19 19.13	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.08.19 19.13	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.08.19 19.13	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.08.19 19.13	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.08.19 19.13	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.08.19 19.13	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.08.19 19.13	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	103	%	70-130	11.08.19 19.13		
4-Bromofluorobenzene	460-00-4	107	%	70-130	11.08.19 19.13		



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **PH09A** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-028 Date Collected: 11.07.19 16.50 Sample Depth: 1.5 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 11.11 Basis: Wet Weight  
 Seq Number: 3106983

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1.04	1.00	mg/kg	11.11.19 11.36		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 13.00 Basis: Wet Weight  
 Seq Number: 3106997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.08.19 19.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.08.19 19.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.08.19 19.32	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	11.08.19 19.32	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.08.19 19.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	11.08.19 19.32	
o-Terphenyl	84-15-1	124	%	70-135	11.08.19 19.32	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH09A</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-028	Date Collected: 11.07.19 16.50	Sample Depth: 1.5 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.11	Basis: Wet Weight
Seq Number: 3106973		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.08.19 19.33	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.08.19 19.33	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.08.19 19.33	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.08.19 19.33	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.08.19 19.33	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.08.19 19.33	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.08.19 19.33	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	117	%	70-130	11.08.19 19.33		
1,4-Difluorobenzene	540-36-3	105	%	70-130	11.08.19 19.33		



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **PH10** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-029 Date Collected: 11.07.19 17.00 Sample Depth: 1 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 11.11 Basis: Wet Weight  
 Seq Number: 3106983

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<1.00	1.00	mg/kg	11.11.19 11.43	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 13.00 Basis: Wet Weight  
 Seq Number: 3106997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.08.19 19.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.08.19 19.52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.08.19 19.52	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	11.08.19 19.52	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.08.19 19.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	11.08.19 19.52	
o-Terphenyl	84-15-1	108	%	70-135	11.08.19 19.52	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH10</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-029	Date Collected: 11.07.19 17.00	Sample Depth: 1 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.11	Basis: Wet Weight
Seq Number: 3106973		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00100	0.00100	mg/kg	11.08.19 19.54	U	1
Toluene	108-88-3	<0.00100	0.00100	mg/kg	11.08.19 19.54	U	1
Ethylbenzene	100-41-4	<0.00100	0.00100	mg/kg	11.08.19 19.54	U	1
m,p-Xylenes	179601-23-1	<0.00200	0.00200	mg/kg	11.08.19 19.54	U	1
o-Xylene	95-47-6	<0.00100	0.00100	mg/kg	11.08.19 19.54	U	1
Total Xylenes	1330-20-7	<0.00100	0.00100	mg/kg	11.08.19 19.54	U	1
Total BTEX		<0.00100	0.00100	mg/kg	11.08.19 19.54	U	1
			%				
<b>Surrogate</b>	<b>Cas Number</b>	<b>Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	101	%	70-130	11.08.19 19.54		
4-Bromofluorobenzene	460-00-4	112	%	70-130	11.08.19 19.54		



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **PH10A** Matrix: Soil Date Received: 11.08.19 08.51  
 Lab Sample Id: 642596-030 Date Collected: 11.07.19 17.10 Sample Depth: 1.5 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 11.08.19 11.11 Basis: Wet Weight  
 Seq Number: 3106983

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4.44	1.00	mg/kg	11.11.19 11.50		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 11.08.19 13.00 Basis: Wet Weight  
 Seq Number: 3106997

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	11.08.19 20.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	11.08.19 20.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	11.08.19 20.12	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	11.08.19 20.12	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	11.08.19 20.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	11.08.19 20.12	
o-Terphenyl	84-15-1	100	%	70-135	11.08.19 20.12	



# Certificate of Analytical Results 642596

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>PH10A</b>	Matrix: Soil	Date Received: 11.08.19 08.51
Lab Sample Id: 642596-030	Date Collected: 11.07.19 17.10	Sample Depth: 1.5 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.08.19 09.11	Basis: Wet Weight
Seq Number: 3106973		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00101	0.00101	mg/kg	11.08.19 20.14	U	1
Toluene	108-88-3	<0.00101	0.00101	mg/kg	11.08.19 20.14	U	1
Ethylbenzene	100-41-4	<0.00101	0.00101	mg/kg	11.08.19 20.14	U	1
m,p-Xylenes	179601-23-1	<0.00202	0.00202	mg/kg	11.08.19 20.14	U	1
o-Xylene	95-47-6	<0.00101	0.00101	mg/kg	11.08.19 20.14	U	1
Total Xylenes	1330-20-7	<0.00101	0.00101	mg/kg	11.08.19 20.14	U	1
Total BTEX		<0.00101	0.00101	mg/kg	11.08.19 20.14	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	119	%	70-130	11.08.19 20.14		
1,4-Difluorobenzene	540-36-3	104	%	70-130	11.08.19 20.14		



## 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.**  
Remuda Basin #1

**Analytical Method: Chloride by EPA 300**

Seq Number: 3106922

MB Sample Id: 7689889-1-BLK

Matrix: Solid

LCS Sample Id: 7689889-1-BKS

Prep Method: E300P

Date Prep: 11.08.19

LCSD Sample Id: 7689889-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	249	100	250	100	90-110	0	20	mg/kg	11.08.19 12:07	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3106983

MB Sample Id: 7689891-1-BLK

Matrix: Solid

LCS Sample Id: 7689891-1-BKS

Prep Method: E300P

Date Prep: 11.08.19

LCSD Sample Id: 7689891-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	252	101	256	102	90-110	2	20	mg/kg	11.08.19 15:32	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3106922

Parent Sample Id: 642594-001

Matrix: Soil

MS Sample Id: 642594-001 S

Prep Method: E300P

Date Prep: 11.08.19

MSD Sample Id: 642594-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	272	200	456	92	458	93	90-110	0	20	mg/kg	11.08.19 12:25	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3106922

Parent Sample Id: 642596-002

Matrix: Soil

MS Sample Id: 642596-002 S

Prep Method: E300P

Date Prep: 11.08.19

MSD Sample Id: 642596-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2740	200	2950	105	2940	100	90-110	0	20	mg/kg	11.08.19 13:54	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3106983

Parent Sample Id: 642596-012

Matrix: Soil

MS Sample Id: 642596-012 S

Prep Method: E300P

Date Prep: 11.08.19

MSD Sample Id: 642596-012 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	719	500	1350	126	1320	120	90-110	2	20	mg/kg	11.08.19 15:54	X

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.**  
Remuda Basin #1

**Analytical Method:** Chloride by EPA 300

Seq Number: 3106983

Parent Sample Id: 642596-022

Matrix: Soil

MS Sample Id: 642596-022 S

Prep Method: E300P

Date Prep: 11.08.19

MSD Sample Id: 642596-022 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	334	500	665	66	656	64	90-110	1	20	mg/kg	11.08.19 17:36	X

**Analytical Method:** TPH by SW8015 Mod

Seq Number: 3106914

MB Sample Id: 7689947-1-BLK

Matrix: Solid

LCS Sample Id: 7689947-1-BKS

Prep Method: SW8015P

Date Prep: 11.08.19

LCSD Sample Id: 7689947-1-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)	<50.0	1000	905	91	921	92	70-135	2	35	mg/kg	11.08.19 12:21	
Diesel Range Organics (DRO)	<50.0	1000	1010	101	1030	103	70-135	2	35	mg/kg	11.08.19 12:21	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		120		121		70-135	%	11.08.19 12:21
o-Terphenyl	113		121		121		70-135	%	11.08.19 12:21

**Analytical Method:** TPH by SW8015 Mod

Seq Number: 3106997

MB Sample Id: 7689950-1-BLK

Matrix: Solid

LCS Sample Id: 7689950-1-BKS

Prep Method: SW8015P

Date Prep: 11.08.19

LCSD Sample Id: 7689950-1-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)	<50.0	1000	804	80	792	79	70-135	2	35	mg/kg	11.08.19 12:21	
Diesel Range Organics (DRO)	<50.0	1000	877	88	854	85	70-135	3	35	mg/kg	11.08.19 12:21	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		103		102		70-135	%	11.08.19 12:21
o-Terphenyl	110		107		102		70-135	%	11.08.19 12:21

**Analytical Method:** TPH by SW8015 Mod

Seq Number: 3106914

Matrix: Solid

MB Sample Id: 7689947-1-BLK

Prep Method: SW8015P

Date Prep: 11.08.19

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.08.19 12:01	

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.**  
Remuda Basin #1

**Analytical Method:** TPH by SW8015 Mod  
**Seq Number:** 3106997

**Matrix:** Solid  
**MB Sample Id:** 7689950-1-BLK

**Prep Method:** SW8015P  
**Date Prep:** 11.08.19

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.08.19 12:01	

**Analytical Method:** TPH by SW8015 Mod  
**Seq Number:** 3106914  
**Parent Sample Id:** 642594-001

**Matrix:** Soil  
**MS Sample Id:** 642594-001 S

**Prep Method:** SW8015P  
**Date Prep:** 11.08.19  
**MSD Sample Id:** 642594-001 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)	<50.1	1000	1100	110	892	89	70-135	21	35	mg/kg	11.08.19 13:20	
Diesel Range Organics (DRO)	<50.1	1000	1220	122	991	99	70-135	21	35	mg/kg	11.08.19 13:20	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	141	**	117		70-135	%	11.08.19 13:20
o-Terphenyl	139	**	118		70-135	%	11.08.19 13:20

**Analytical Method:** TPH by SW8015 Mod  
**Seq Number:** 3106997  
**Parent Sample Id:** 642596-012

**Matrix:** Soil  
**MS Sample Id:** 642596-012 S

**Prep Method:** SW8015P  
**Date Prep:** 11.08.19  
**MSD Sample Id:** 642596-012 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)	<49.8	995	745	75	758	76	70-135	2	35	mg/kg	11.08.19 13:20	
Diesel Range Organics (DRO)	<49.8	995	801	81	827	83	70-135	3	35	mg/kg	11.08.19 13:20	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		101		70-135	%	11.08.19 13:20
o-Terphenyl	102		105		70-135	%	11.08.19 13:20

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.**  
Remuda Basin #1

**Analytical Method: BTEX by EPA 8021B**

Seq Number: 3106973

MB Sample Id: 7689952-1-BLK

Matrix: Solid

LCS Sample Id: 7689952-1-BKS

Prep Method: SW5030B

Date Prep: 11.08.19

LCSD Sample Id: 7689952-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.101	101	0.114	114	70-130	12	35	mg/kg	11.08.19 10:35	
Toluene	<0.00100	0.100	0.114	114	0.126	126	70-130	10	35	mg/kg	11.08.19 10:35	
Ethylbenzene	<0.00100	0.100	0.103	103	0.115	115	71-129	11	35	mg/kg	11.08.19 10:35	
m,p-Xylenes	<0.00200	0.200	0.209	105	0.232	116	70-135	10	35	mg/kg	11.08.19 10:35	
o-Xylene	<0.00100	0.100	0.105	105	0.118	118	71-133	12	35	mg/kg	11.08.19 10:35	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		102		106		70-130	%	11.08.19 10:35
4-Bromofluorobenzene	105		104		110		70-130	%	11.08.19 10:35

**Analytical Method: BTEX by EPA 8021B**

Seq Number: 3106935

MB Sample Id: 7689955-1-BLK

Matrix: Solid

LCS Sample Id: 7689955-1-BKS

Prep Method: SW5030B

Date Prep: 11.08.19

LCSD Sample Id: 7689955-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00100	0.100	0.0960	96	0.0934	93	70-130	3	35	mg/kg	11.08.19 10:22	
Toluene	<0.00100	0.100	0.102	102	0.0979	98	70-130	4	35	mg/kg	11.08.19 10:22	
Ethylbenzene	<0.00100	0.100	0.0938	94	0.0900	90	71-129	4	35	mg/kg	11.08.19 10:22	
m,p-Xylenes	<0.00200	0.200	0.198	99	0.190	95	70-135	4	35	mg/kg	11.08.19 10:22	
o-Xylene	<0.00100	0.100	0.101	101	0.0962	96	71-133	5	35	mg/kg	11.08.19 10:22	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		104		105		70-130	%	11.08.19 10:22
4-Bromofluorobenzene	112		113		111		70-130	%	11.08.19 10:22

**Analytical Method: BTEX by EPA 8021B**

Seq Number: 3106973

Parent Sample Id: 642600-001

Matrix: Soil

MS Sample Id: 642600-001 S

Prep Method: SW5030B

Date Prep: 11.08.19

MSD Sample Id: 642600-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000994	0.0994	0.0702	71	0.0689	69	70-130	2	35	mg/kg	11.08.19 11:57	X
Toluene	<0.000994	0.0994	0.0726	73	0.0695	70	70-130	4	35	mg/kg	11.08.19 11:57	
Ethylbenzene	0.00345	0.0994	0.0738	71	0.0714	68	71-129	3	35	mg/kg	11.08.19 11:57	X
m,p-Xylenes	0.00295	0.199	0.154	76	0.146	72	70-135	5	35	mg/kg	11.08.19 11:57	
o-Xylene	0.00132	0.0994	0.0760	75	0.0727	72	71-133	4	35	mg/kg	11.08.19 11:57	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		103		70-130	%	11.08.19 11:57
4-Bromofluorobenzene	114		111		70-130	%	11.08.19 11:57

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.**  
Remuda Basin #1

**Analytical Method:** BTEX by EPA 8021B

Seq Number: 3106935

Parent Sample Id: 642594-001

Matrix: Soil

MS Sample Id: 642594-001 S

Prep Method: SW5030B

Date Prep: 11.08.19

MSD Sample Id: 642594-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00101	0.101	0.0932	92	0.0870	87	70-130	7	35	mg/kg	11.08.19 11:00	
Toluene	<0.00101	0.101	0.0934	92	0.0858	86	70-130	8	35	mg/kg	11.08.19 11:00	
Ethylbenzene	<0.00101	0.101	0.0920	91	0.0839	84	71-129	9	35	mg/kg	11.08.19 11:00	
m,p-Xylenes	<0.00202	0.202	0.196	97	0.178	89	70-135	10	35	mg/kg	11.08.19 11:00	
o-Xylene	<0.00101	0.101	0.0984	97	0.0895	90	71-133	9	35	mg/kg	11.08.19 11:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		105		70-130	%	11.08.19 11:00
4-Bromofluorobenzene	119		119		70-130	%	11.08.19 11:00

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



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334  
Midland, TX (432-704-5440) EL Paso, TX (915)585-3443 Lubbock, TX (806)794-1296  
Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

### Chain of Custody

Work Order No: 1612596

www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 East Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carsbad, NM 88220
Phone:	(432) 236-3849	Email:	sluc@ltenv.com, dimoir@ltenv.com

Project Name:	Remuda Basin #1	Turn Around	<input checked="" type="checkbox"/>
Project Number:	288-2196	Routine	<input checked="" type="checkbox"/>
P.O. Number:		Rush:	
Sampler's Name:	Spencer Lo	Due Date:	

<b>SAMPLE RECEIPT</b>	Temp Blank:	<input checked="" type="radio"/> Yes <input type="radio"/> No	Wet Ice:	<input checked="" type="radio"/> Yes <input type="radio"/> No
Temperature (°C):	2.5	Thermometer ID		
Received In tact:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Correction Factor:	T-N/A-003	
Cooler Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Total Containers:	-0.2	
Sample Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		30	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers		
					TPH (EPA 8015)	BTEX (EPA 0-8021)	Chloride (EPA 300.0)
PH01	S	11-7-19	930	1	1	1	
PH01A			945	1	1	1	
PH01B			1000	1	1	1	
PH02			1020	1	1	1	
PH02A			1030	2	2	2	
PH02B			1040	3	3	3	
PH03			1135	1	1	1	
PH03A			1150	2	2	2	
PH03B			1200	3	3	3	
PH03C			1210	4	4	4	

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 1631 / 245.1 / 7470 / 7471 : Hg

Note: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to 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
		11/8/19 851			



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334  
 Midland, TX (432-704-5440) EL Paso, TX (915)585-3443 Lubbock, TX (806)794-1296  
 Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

### Chain of Custody

Work Order No: 642596

<b>Project Manager:</b> Dan Moir	<b>Company Name:</b> LT Environmental, Inc., Permian office	<b>Bill to: (if different)</b> Kyle Littrell
<b>Address:</b> 3300 North A Street	<b>City, State ZIP:</b> Midland, TX 79705	<b>Company Name:</b> XTO Energy
<b>Phone:</b> (432) 236-3849	<b>Address:</b> 3104 East Green Street	<b>City, State ZIP:</b> Carlsbad, NM 88220
<b>Project Name:</b> Permian Basin #1	<b>City, State ZIP:</b> Carlsbad, NM 88220	<b>Reporting Level:</b> I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> IV <input type="checkbox"/>
<b>Project Number:</b> RP-256	<b>Turn Around:</b> Routine <input checked="" type="checkbox"/> Rush: <input type="checkbox"/>	<b>Deliverables:</b> EDD <input type="checkbox"/> ADaPT <input type="checkbox"/> Other: <input type="checkbox"/>
<b>P.O. Number:</b>	<b>Due Date:</b>	<b>Work Order Comments:</b> 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: I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> ST/UST <input type="checkbox"/> RRP <input type="checkbox"/> Level IV <input type="checkbox"/>
<b>Sampler's Name:</b> Spencer Lo	<b>ANALYSIS REQUEST:</b>	<b>Work Order Notes:</b>

<b>SAMPLE RECEIPT</b>	Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	Received Inact:	Yes	No	Thermometer-ID:	MP-1	
Cooler Custody Seals:	Yes	No	Correction Factor:			
Sample Custody Seals:	Yes	No	Total Containers:			

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
Ph0Y	S	11-19-19	1245	1	1	Y	X	X
Ph0YA			1300	2				
Ph0YB			1310	3				
Ph0YC			1320	4				
Ph0S			1340	1				
Ph0SA			1400	2				
Ph0G			1420	1				
Ph0GA			1440	2				
Ph07			1500	1				
Ph07A			1510	2				

**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  
 1631 / 245.1 / 7470 / 7471 : Hg

Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

<b>Relinquished by: (Signature)</b>	<b>Received by: (Signature)</b>	<b>Date/Time</b>	<b>Relinquished by: (Signature)</b>	<b>Received by: (Signature)</b>	<b>Date/Time</b>
<i>[Signature]</i>	<i>[Signature]</i>	11/8/19 851			





# XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 11/08/2019 08:51:00 AM

Work Order #: 642596

Acceptable Temperature Range: 0 - 6 degC  
Air and Metal samples Acceptable Range: Ambient  
Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#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:   
Elizabeth McClellan

Date: 11/08/2019

Checklist reviewed by:   
Jessica Kramer

Date: 11/08/2019

# Analytical Report 649661

for  
LT Environmental, Inc.

Project Manager: Dan Moir

Remuda Basin #1

012918058

22-JAN-20

Collected By: Client



1089 N Canal Street  
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):  
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)  
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):  
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)  
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)  
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)  
Xenco-Carlsbad (LELAP): Louisiana (05092)  
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)  
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)  
Xenco-Tampa: Florida (E87429), North Carolina (483)



22-JAN-20

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

Reference: XENCO Report No(s): **649661**  
**Remuda Basin #1**  
Project Address:

**Dan Moir:**

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) 649661. 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. 649661 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'. The signature is written in a cursive, slightly slanted style.

---

**Jessica Kramer**  
Project Assistant

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

*Certified and approved by numerous States and Agencies.*

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



# Sample Cross Reference 649661

LT Environmental, Inc., Arvada, CO

Remuda Basin #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS05	S	01-20-20 09:45	2.5 ft	649661-001
SW07	S	01-20-20 10:00	0 - 2.5 ft	649661-002
SW08	S	01-20-20 10:15	0 - 2.5 ft	649661-003
SW09	S	01-20-20 10:30	0 - 2.5 ft	649661-004
SW10	S	01-20-20 10:45	0 - 2.5 ft	649661-005



# CASE NARRATIVE

*Client Name: LT Environmental, Inc.*

*Project Name: Remuda Basin #1*

Project ID: 012918058  
Work Order Number(s): 649661

Report Date: 22-JAN-20  
Date Received: 01/20/2020

### Sample receipt non conformances and comments:

### Sample receipt non conformances and comments per sample:

None

#### **Analytical non conformances and comments:**

Batch: LBA-3113883 TPH by SW8015 Mod

Surrogate 1-Chlorooctane recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 649661-004.

Batch: LBA-3113991 BTEX by EPA 8021B

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

Lab Sample ID 649663-005 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes , o-Xylene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference.

The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.



# Certificate of Analysis Summary 649661

LT Environmental, Inc., Arvada, CO

Project Name: Remuda Basin #1

**Project Id:** 012918058  
**Contact:** Dan Moir  
**Project Location:**

**Date Received in Lab:** Mon Jan-20-20 03:30 pm  
**Report Date:** 22-JAN-20  
**Project Manager:** Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	649661-001	649661-002	649661-003	649661-004	649661-005	
	<i>Field Id:</i>	FS05	SW07	SW08	SW09	SW10	
	<i>Depth:</i>	2.5- ft	0-2.5 ft	0-2.5 ft	0-2.5 ft	0-2.5 ft	
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	Jan-20-20 09:45	Jan-20-20 10:00	Jan-20-20 10:15	Jan-20-20 10:30	Jan-20-20 10:45	
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Jan-20-20 16:00	Jan-20-20 16:00	Jan-20-20 16:00	Jan-20-20 16:00	Jan-20-20 16:00	
	<i>Analyzed:</i>	Jan-21-20 07:31	Jan-21-20 07:51	Jan-21-20 08:12	Jan-21-20 08:32	Jan-21-20 08:53	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00200 0.00200	<0.00198 0.00198	<0.00202 0.00202	<0.00202 0.00202	<0.00198 0.00198	
Toluene		<0.00200 0.00200	<0.00198 0.00198	<0.00202 0.00202	<0.00202 0.00202	<0.00198 0.00198	
Ethylbenzene		<0.00200 0.00200	<0.00198 0.00198	<0.00202 0.00202	<0.00202 0.00202	<0.00198 0.00198	
m,p-Xylenes		<0.00399 0.00399	<0.00397 0.00397	<0.00403 0.00403	<0.00404 0.00404	<0.00396 0.00396	
o-Xylene		<0.00200 0.00200	<0.00198 0.00198	<0.00202 0.00202	<0.00202 0.00202	<0.00198 0.00198	
Total Xylenes		<0.00200 0.00200	<0.00198 0.00198	<0.00202 0.00202	<0.00202 0.00202	<0.00198 0.00198	
Total BTEX		<0.00200 0.00200	<0.00198 0.00198	<0.00202 0.00202	<0.00202 0.00202	<0.00198 0.00198	
<b>Chloride by EPA 300</b>	<i>Extracted:</i>	Jan-20-20 16:49	Jan-20-20 16:49	Jan-20-20 16:49	Jan-20-20 16:49	Jan-20-20 16:49	
	<i>Analyzed:</i>	Jan-20-20 19:46	Jan-20-20 19:51	Jan-20-20 19:57	Jan-20-20 20:02	Jan-20-20 20:08	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		242 10.1	30.4 10.1	301 9.90	352 10.0	175 9.98	
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Jan-20-20 17:00	Jan-20-20 17:00	Jan-20-20 17:00	Jan-20-20 17:00	Jan-20-20 17:00	
	<i>Analyzed:</i>	Jan-21-20 00:33	Jan-21-20 00:33	Jan-21-20 00:53	Jan-21-20 00:53	Jan-21-20 01:12	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<50.3 50.3	<50.3 50.3	<50.3 50.3	<50.2 50.2	<49.8 49.8	
Diesel Range Organics (DRO)		<50.3 50.3	<50.3 50.3	<50.3 50.3	<50.2 50.2	<49.8 49.8	
Motor Oil Range Hydrocarbons (MRO)		<50.3 50.3	<50.3 50.3	<50.3 50.3	<50.2 50.2	<49.8 49.8	
Total GRO-DRO		<50.3 50.3	<50.3 50.3	<50.3 50.3	<50.2 50.2	<49.8 49.8	
Total TPH		<50.3 50.3	<50.3 50.3	<50.3 50.3	<50.2 50.2	<49.8 49.8	

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Jessica Kramer  
Project Assistant



# Certificate of Analytical Results 649661

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **FS05** Matrix: Soil Date Received: 01.20.20 15.30  
 Lab Sample Id: 649661-001 Date Collected: 01.20.20 09.45 Sample Depth: 2.5 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: JHB % Moisture:  
 Analyst: JHB Date Prep: 01.20.20 16.49 Basis: Wet Weight  
 Seq Number: 3113985

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	242	10.1	mg/kg	01.20.20 19.46		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 01.20.20 17.00 Basis: Wet Weight  
 Seq Number: 3113883

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	01.21.20 00.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	01.21.20 00.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	01.21.20 00.33	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	01.21.20 00.33	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	01.21.20 00.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	01.21.20 00.33	
o-Terphenyl	84-15-1	105	%	70-135	01.21.20 00.33	



# Certificate of Analytical Results 649661

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>FS05</b>	Matrix: Soil	Date Received: 01.20.20 15.30
Lab Sample Id: 649661-001	Date Collected: 01.20.20 09.45	Sample Depth: 2.5 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: JHB		% Moisture:
Analyst: JHB	Date Prep: 01.20.20 16.00	Basis: Wet Weight
Seq Number: 3113991		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.21.20 07.31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.21.20 07.31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.21.20 07.31	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.21.20 07.31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.21.20 07.31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.21.20 07.31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.21.20 07.31	U	1
			%				
<b>Surrogate</b>	<b>Cas Number</b>	<b>Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	103	%	70-130	01.21.20 07.31		
4-Bromofluorobenzene	460-00-4	102	%	70-130	01.21.20 07.31		



# Certificate of Analytical Results 649661

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **SW07** Matrix: Soil Date Received: 01.20.20 15.30  
 Lab Sample Id: 649661-002 Date Collected: 01.20.20 10.00 Sample Depth: 0 - 2.5 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: JHB % Moisture:  
 Analyst: JHB Date Prep: 01.20.20 16.49 Basis: Wet Weight  
 Seq Number: 3113985

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	30.4	10.1	mg/kg	01.20.20 19.51		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 01.20.20 17.00 Basis: Wet Weight  
 Seq Number: 3113883

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	01.21.20 00.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	01.21.20 00.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	01.21.20 00.33	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	01.21.20 00.33	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	01.21.20 00.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	01.21.20 00.33	
o-Terphenyl	84-15-1	108	%	70-135	01.21.20 00.33	



# Certificate of Analytical Results 649661

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>SW07</b>	Matrix: Soil	Date Received: 01.20.20 15.30
Lab Sample Id: 649661-002	Date Collected: 01.20.20 10.00	Sample Depth: 0 - 2.5 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: JHB		% Moisture:
Analyst: JHB	Date Prep: 01.20.20 16.00	Basis: Wet Weight
Seq Number: 3113991		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.21.20 07.51	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.21.20 07.51	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.21.20 07.51	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	01.21.20 07.51	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.21.20 07.51	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	01.21.20 07.51	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.21.20 07.51	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	100	%	70-130	01.21.20 07.51		
1,4-Difluorobenzene	540-36-3	103	%	70-130	01.21.20 07.51		



# Certificate of Analytical Results 649661

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **SW08** Matrix: Soil Date Received: 01.20.20 15.30  
 Lab Sample Id: 649661-003 Date Collected: 01.20.20 10.15 Sample Depth: 0 - 2.5 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: JHB % Moisture:  
 Analyst: JHB Date Prep: 01.20.20 16.49 Basis: Wet Weight  
 Seq Number: 3113985

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	301	9.90	mg/kg	01.20.20 19.57		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 01.20.20 17.00 Basis: Wet Weight  
 Seq Number: 3113883

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	01.21.20 00.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	01.21.20 00.53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	01.21.20 00.53	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	01.21.20 00.53	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	01.21.20 00.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	01.21.20 00.53	
o-Terphenyl	84-15-1	109	%	70-135	01.21.20 00.53	



# Certificate of Analytical Results 649661

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>SW08</b>	Matrix: Soil	Date Received: 01.20.20 15.30
Lab Sample Id: 649661-003	Date Collected: 01.20.20 10.15	Sample Depth: 0 - 2.5 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: JHB		% Moisture:
Analyst: JHB	Date Prep: 01.20.20 16.00	Basis: Wet Weight
Seq Number: 3113991		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.21.20 08.12	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.21.20 08.12	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.21.20 08.12	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	01.21.20 08.12	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.21.20 08.12	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	01.21.20 08.12	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.21.20 08.12	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	103	%	70-130	01.21.20 08.12		
4-Bromofluorobenzene	460-00-4	100	%	70-130	01.21.20 08.12		



# Certificate of Analytical Results 649661

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **SW09** Matrix: Soil Date Received: 01.20.20 15.30  
 Lab Sample Id: 649661-004 Date Collected: 01.20.20 10.30 Sample Depth: 0 - 2.5 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: JHB % Moisture:  
 Analyst: JHB Date Prep: 01.20.20 16.49 Basis: Wet Weight  
 Seq Number: 3113985

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	352	10.0	mg/kg	01.20.20 20.02		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 01.20.20 17.00 Basis: Wet Weight  
 Seq Number: 3113883

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	01.21.20 00.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	01.21.20 00.53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	01.21.20 00.53	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	01.21.20 00.53	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	01.21.20 00.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	138	%	70-135	01.21.20 00.53	**
o-Terphenyl	84-15-1	134	%	70-135	01.21.20 00.53	



# Certificate of Analytical Results 649661

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>SW09</b>	Matrix: Soil	Date Received: 01.20.20 15.30
Lab Sample Id: 649661-004	Date Collected: 01.20.20 10.30	Sample Depth: 0 - 2.5 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: JHB		% Moisture:
Analyst: JHB	Date Prep: 01.20.20 16.00	Basis: Wet Weight
Seq Number: 3113991		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.21.20 08.32	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.21.20 08.32	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.21.20 08.32	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	01.21.20 08.32	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.21.20 08.32	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	01.21.20 08.32	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.21.20 08.32	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.21.20 08.32		
4-Bromofluorobenzene	460-00-4	101	%	70-130	01.21.20 08.32		



# Certificate of Analytical Results 649661

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **SW10** Matrix: Soil Date Received: 01.20.20 15.30  
 Lab Sample Id: 649661-005 Date Collected: 01.20.20 10.45 Sample Depth: 0 - 2.5 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: JHB % Moisture:  
 Analyst: JHB Date Prep: 01.20.20 16.49 Basis: Wet Weight  
 Seq Number: 3113985

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	175	9.98	mg/kg	01.20.20 20.08		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 01.20.20 17.00 Basis: Wet Weight  
 Seq Number: 3113883

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.21.20 01.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.21.20 01.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.21.20 01.12	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	01.21.20 01.12	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.21.20 01.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	01.21.20 01.12	
o-Terphenyl	84-15-1	104	%	70-135	01.21.20 01.12	



# Certificate of Analytical Results 649661

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>SW10</b>	Matrix: Soil	Date Received: 01.20.20 15.30
Lab Sample Id: 649661-005	Date Collected: 01.20.20 10.45	Sample Depth: 0 - 2.5 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: JHB		% Moisture:
Analyst: JHB	Date Prep: 01.20.20 16.00	Basis: Wet Weight
Seq Number: 3113991		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.21.20 08.53	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.21.20 08.53	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.21.20 08.53	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	01.21.20 08.53	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.21.20 08.53	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	01.21.20 08.53	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.21.20 08.53	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.21.20 08.53		
4-Bromofluorobenzene	460-00-4	103	%	70-130	01.21.20 08.53		





LT Environmental, Inc.

Remuda Basin #1

**Analytical Method: Chloride by EPA 300**

Seq Number: 3113985

MB Sample Id: 7694792-1-BLK

Matrix: Solid

LCS Sample Id: 7694792-1-BKS

Prep Method: E300P

Date Prep: 01.20.20

LCSD Sample Id: 7694792-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1.39	250	252	101	252	101	90-110	0	20	mg/kg	01.20.20 18:13	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3113985

Parent Sample Id: 649573-008

Matrix: Soil

MS Sample Id: 649573-008 S

Prep Method: E300P

Date Prep: 01.20.20

MSD Sample Id: 649573-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	79.7	193	333	131	316	122	90-110	5	20	mg/kg	01.20.20 18:53	X

**Analytical Method: Chloride by EPA 300**

Seq Number: 3113985

Parent Sample Id: 649573-018

Matrix: Soil

MS Sample Id: 649573-018 S

Prep Method: E300P

Date Prep: 01.20.20

MSD Sample Id: 649573-018 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	382	202	679	147	701	159	90-110	3	20	mg/kg	01.20.20 20:34	X

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3113883

MB Sample Id: 7694812-1-BLK

Matrix: Solid

LCS Sample Id: 7694812-1-BKS

Prep Method: SW8015P

Date Prep: 01.20.20

LCSD Sample Id: 7694812-1-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)	<50.0	1000	1090	109	1140	114	70-135	4	35	mg/kg	01.20.20 23:34	
Diesel Range Organics (DRO)	<50.0	1000	1210	121	1100	110	70-135	10	35	mg/kg	01.20.20 23:34	

**Surrogate**

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		116		124		70-135	%	01.20.20 23:34
o-Terphenyl	102		109		117		70-135	%	01.20.20 23:34

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3113883

MB Sample Id: 7694812-1-BLK

Matrix: Solid

Prep Method: SW8015P

Date Prep: 01.20.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.20.20 23:14	

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.**  
Remuda Basin #1

**Analytical Method:** TPH by SW8015 Mod

Seq Number: 3113883

Parent Sample Id: 649655-004

Matrix: Soil

MS Sample Id: 649655-004 S

Prep Method: SW8015P

Date Prep: 01.20.20

MSD Sample Id: 649655-004 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)	<50.1	1000	1280	128	1170	117	70-135	9	35	mg/kg	01.20.20 23:53	
Diesel Range Organics (DRO)	<50.1	1000	1240	124	1090	109	70-135	13	35	mg/kg	01.20.20 23:53	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	133		129		70-135	%	01.20.20 23:53
o-Terphenyl	129		118		70-135	%	01.20.20 23:53

**Analytical Method:** BTEX by EPA 8021B

Seq Number: 3113991

MB Sample Id: 7694845-1-BLK

Matrix: Solid

LCS Sample Id: 7694845-1-BKS

Prep Method: SW5030B

Date Prep: 01.20.20

LCSD Sample Id: 7694845-1-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	0.100	0.0906	91	0.0910	91	70-130	0	35	mg/kg	01.21.20 04:54	
Toluene	<0.00200	0.100	0.0883	88	0.0880	88	70-130	0	35	mg/kg	01.21.20 04:54	
Ethylbenzene	<0.00200	0.100	0.0855	86	0.0842	84	71-129	2	35	mg/kg	01.21.20 04:54	
m,p-Xylenes	<0.00400	0.200	0.177	89	0.173	87	70-135	2	35	mg/kg	01.21.20 04:54	
o-Xylene	<0.00200	0.100	0.0882	88	0.0867	87	71-133	2	35	mg/kg	01.21.20 04:54	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		102		101		70-130	%	01.21.20 04:54
4-Bromofluorobenzene	98		97		96		70-130	%	01.21.20 04:54

**Analytical Method:** BTEX by EPA 8021B

Seq Number: 3113991

Parent Sample Id: 649663-005

Matrix: Soil

MS Sample Id: 649663-005 S

Prep Method: SW5030B

Date Prep: 01.20.20

MSD Sample Id: 649663-005 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	0.0998	0.0816	82	0.0670	66	70-130	20	35	mg/kg	01.21.20 05:35	X
Toluene	<0.00200	0.0998	0.0788	79	0.0665	66	70-130	17	35	mg/kg	01.21.20 05:35	X
Ethylbenzene	<0.00200	0.0998	0.0761	76	0.0645	64	71-129	17	35	mg/kg	01.21.20 05:35	X
m,p-Xylenes	<0.00399	0.200	0.157	79	0.135	67	70-135	15	35	mg/kg	01.21.20 05:35	X
o-Xylene	<0.00200	0.0998	0.0786	79	0.0685	68	71-133	14	35	mg/kg	01.21.20 05:35	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		103		70-130	%	01.21.20 05:35
4-Bromofluorobenzene	99		102		70-130	%	01.21.20 05:35

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



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334  
 Midland, TX (432-704-5440) EL Paso, TX (915)585-3443 Lubbock, TX (806)794-1296  
 Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

**Chain of Custody**

Work Order No: 1631

www.xenco.com Page 1 of 1

Project Manager: Dan Moir  
 Company Name: LT Environmental, Inc., Permian office  
 Address: 3300 North A Street  
 City, State ZIP: Midland, TX 79705  
 Phone: (432) 236-3849  
 Bill to: (if different) Kyle Littell  
 Company Name: XTO Energy  
 Address: 3104 East Green Street  
 City, State ZIP: Carlsbad, NM 88220  
 Email: slac@ltenv.com, dmoir@ltenv.com, kkennedy@ltenv.com

Turn Around   
 Routine   
 Rush: 24H  
 Due Date:  
 Project Name: Remuda Basin #1  
 Project Number: 012918058  
 P.O. Number:  
 Sampler's Name: Spencer Lo  
 Program: UST/PST PRP Brownfields RRC Superfund  
 State of Project:  
 Reporting: level II  level III  ST/UST  RRP  level IV   
 Deliverables: EDD  ADaPT  Other:

Temp Blank:  Yes  No Wet Ice:  Yes  No  
 Temperature (°C): 28 Thermometer ID  
 Received Intact:  Yes  No Correction Factor: T-NM-007  
 Cooler Custody Seals: Yes  No N/A Total Containers: 5  
 Sample Custody Seals: Yes  No N/A

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers			Sample Comments
					TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	
F505	S	1-20-20	945	2.5'	1	X	X	
Sw07	S	1-20-20	1000	0-2.5'	1	X	X	
Sw08	S	1-20-20	1015	0-2.5'	1	X	X	
Sw09	S	1-20-20	1030	0-2.5'	1	X	X	
Sw10	S	1-20-20	1045	0-2.5'	1	X	X	

ANALYSIS REQUEST	Work Order Notes
A I 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: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Pb Mn Mo Ni Se Ag TI U TCLP/SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag TI U 1631 / 245.1 / 7470 / 7471 : Hg	TAT starts the day received by the lab, if received by 4:30pm Sample Comments

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: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Pb Mn Mo Ni Se Ag TI U  
 TCLP/SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag TI U  
 1631 / 245.1 / 7470 / 7471 : Hg

Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$3 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature) [Signature] Received by: (Signature) [Signature] Date/Time 1/20/20 15:20

Relinquished by: (Signature) [Signature] Received by: (Signature) [Signature] Date/Time [Blank]

Received by OCD: 5/4/2026 1:57:49 PM

Revised Date 05/14/18 Rev. 2018.1

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 01.20.2020 03.30.00 PM

Work Order #: 649661

Acceptable Temperature Range: 0 - 6 degC  
Air and Metal samples Acceptable Range: Ambient  
Temperature Measuring device used : T-NM-007

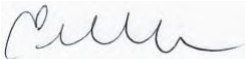
Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.8
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6*Custody Seals Signed and dated?	Yes
#7 *Chain 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)?	Yes
#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:

  
Elizabeth McClellan

Date: 01.20.2020

Checklist reviewed by:

  
Jessica Kramer

Date: 01.21.2020

# Analytical Report 649655

for  
**LT Environmental, Inc.**

**Project Manager: Dan Moir**

**Remuda Basin #1**

**012918058**

**22-JAN-20**

Collected By: Client



**1089 N Canal Street  
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):  
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)  
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):  
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)  
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)  
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)  
Xenco-Carlsbad (LELAP): Louisiana (05092)  
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)  
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)  
Xenco-Tampa: Florida (E87429), North Carolina (483)



22-JAN-20

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

Reference: XENCO Report No(s): **649655**  
**Remuda Basin #1**  
Project Address:

**Dan Moir:**

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) 649655. 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. 649655 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,

**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 649655

LT Environmental, Inc., Arvada, CO

Remuda Basin #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS06	S	01-20-20 11:00	2.5 ft	649655-001
SW11	S	01-20-20 11:15	0 - 2.5 ft	649655-002
SW12	S	01-20-20 11:30	0 - 2.5 ft	649655-003
SW13	S	01-20-20 11:45	0 - 2.5 ft	649655-004
SW14	S	01-20-20 12:00	0 - 2.5 ft	649655-005



# CASE NARRATIVE

*Client Name: LT Environmental, Inc.*

*Project Name: Remuda Basin #1*

Project ID: 012918058  
Work Order Number(s): 649655

Report Date: 22-JAN-20  
Date Received: 01/20/2020

### Sample receipt non conformances and comments:

### Sample receipt non conformances and comments per sample:

None

#### **Analytical non conformances and comments:**

Batch: LBA-3113964 BTEX by EPA 8021B

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

Batch: LBA-3113990 Chloride by EPA 300

Lab Sample ID 649663-010 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 649655-001, -002, -003, -004, -005.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3113991 BTEX by EPA 8021B

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

Lab Sample ID 649663-005 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes , o-Xylene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference.

The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3113992 BTEX by EPA 8021B

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



# Certificate of Analysis Summary 649655

LT Environmental, Inc., Arvada, CO

Project Name: Remuda Basin #1

Project Id: 012918058

Contact: Dan Moir

Project Location:

Date Received in Lab: Mon Jan-20-20 03:20 pm

Report Date: 22-JAN-20

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	649655-001	649655-002	649655-003	649655-004	649655-005				
	<i>Field Id:</i>	FS06	SW11	SW12	SW13	SW14				
	<i>Depth:</i>	2.5- ft	0-2.5 ft	0-2.5 ft	0-2.5 ft	0-2.5 ft				
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL				
	<i>Sampled:</i>	Jan-20-20 11:00	Jan-20-20 11:15	Jan-20-20 11:30	Jan-20-20 11:45	Jan-20-20 12:00				
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	*** ** **		Jan-20-20 17:00	Jan-20-20 17:00	Jan-20-20 16:00	Jan-20-20 16:00			
	<i>Analyzed:</i>	Jan-21-20 04:09		Jan-21-20 03:12	Jan-21-20 03:33	Jan-21-20 06:50	Jan-21-20 07:11			
	<i>Units/RL:</i>	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Benzene	<0.00202	0.00202	<0.00199	0.00199	<0.00202	0.00202	<0.00202	0.00202		
Toluene	<0.00202	0.00202	<0.00199	0.00199	<0.00202	0.00202	<0.00202	0.00202		
Ethylbenzene	<0.00202	0.00202	<0.00199	0.00199	<0.00202	0.00202	<0.00202	0.00202		
m,p-Xylenes	<0.00404	0.00404	<0.00398	0.00398	<0.00405	0.00405	<0.00404	0.00404		
o-Xylene	<0.00202	0.00202	<0.00199	0.00199	<0.00202	0.00202	<0.00202	0.00202		
Total Xylenes	<0.00202	0.00202	<0.00199	0.00199	<0.00202	0.00202	<0.00202	0.00202		
Total BTEX	<0.00202	0.00202	<0.00199	0.00199	<0.00202	0.00202	<0.00202	0.00202		
<b>Chloride by EPA 300</b>	<i>Extracted:</i>	Jan-20-20 16:10		Jan-20-20 16:10	Jan-20-20 16:10	Jan-20-20 16:10	Jan-20-20 16:10			
	<i>Analyzed:</i>	Jan-20-20 22:00		Jan-20-20 22:06	Jan-20-20 22:11	Jan-20-20 22:17	Jan-20-20 22:33			
	<i>Units/RL:</i>	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Chloride	29.2	10.1	186	10.0	320	10.0	234	9.94	341	10.1
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Jan-20-20 17:36		Jan-20-20 17:36	Jan-20-20 17:36	Jan-20-20 17:00	Jan-20-20 17:00			
	<i>Analyzed:</i>	Jan-20-20 22:35		Jan-20-20 22:54	Jan-20-20 22:54	Jan-20-20 23:53	Jan-21-20 00:13			
	<i>Units/RL:</i>	mg/kg	RL	mg/kg	RL	mg/kg	RL			
Gasoline Range Hydrocarbons (GRO)	<49.8	49.8	<49.8	49.8	<50.3	50.3	<50.0	50.0	<50.3	50.3
Diesel Range Organics (DRO)	<49.8	49.8	<49.8	49.8	<50.3	50.3	<50.0	50.0	<50.3	50.3
Motor Oil Range Hydrocarbons (MRO)	<49.8	49.8	<49.8	49.8	<50.3	50.3	<50.0	50.0	<50.3	50.3
Total GRO-DRO	<49.8	49.8	<49.8	49.8	<50.3	50.3	<50.0	50.0	<50.3	50.3
Total TPH	<49.8	49.8	<49.8	49.8	<50.3	50.3	<50.0	50.0	<50.3	50.3

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 - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer  
Project Assistant



# Certificate of Analytical Results 649655

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **FS06** Matrix: Soil Date Received: 01.20.20 15.20  
 Lab Sample Id: 649655-001 Date Collected: 01.20.20 11.00 Sample Depth: 2.5 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: JHB % Moisture:  
 Analyst: JHB Date Prep: 01.20.20 16.10 Basis: Wet Weight  
 Seq Number: 3113990

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	29.2	10.1	mg/kg	01.20.20 22.00		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 01.20.20 17.36 Basis: Wet Weight  
 Seq Number: 3113865

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.20.20 22.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.20.20 22.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.20.20 22.35	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	01.20.20 22.35	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.20.20 22.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	01.20.20 22.35	
o-Terphenyl	84-15-1	109	%	70-135	01.20.20 22.35	



# Certificate of Analytical Results 649655

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>FS06</b>	Matrix: Soil	Date Received: 01.20.20 15.20
Lab Sample Id: 649655-001	Date Collected: 01.20.20 11.00	Sample Depth: 2.5 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: JHB		% Moisture:
Analyst: JHB	Date Prep: 01.20.20 13.39	Basis: Wet Weight
Seq Number: 3113964		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.21.20 04.09	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.21.20 04.09	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.21.20 04.09	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	01.21.20 04.09	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.21.20 04.09	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	01.21.20 04.09	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.21.20 04.09	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	93	%	70-130	01.21.20 04.09		
1,4-Difluorobenzene	540-36-3	105	%	70-130	01.21.20 04.09		



# Certificate of Analytical Results 649655

## LT Environmental, Inc., Arvada, CO Remuda Basin #1

Sample Id: **SW11** Matrix: Soil Date Received: 01.20.20 15.20  
 Lab Sample Id: 649655-002 Date Collected: 01.20.20 11.15 Sample Depth: 0 - 2.5 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: JHB % Moisture:  
 Analyst: JHB Date Prep: 01.20.20 16.10 Basis: Wet Weight  
 Seq Number: 3113990

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	186	10.0	mg/kg	01.20.20 22.06		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 01.20.20 17.36 Basis: Wet Weight  
 Seq Number: 3113865

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.20.20 22.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.20.20 22.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.20.20 22.54	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	01.20.20 22.54	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.20.20 22.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	01.20.20 22.54	
o-Terphenyl	84-15-1	107	%	70-135	01.20.20 22.54	



# Certificate of Analytical Results 649655

## LT Environmental, Inc., Arvada, CO Remuda Basin #1

Sample Id: **SW11** Matrix: Soil Date Received: 01.20.20 15.20  
 Lab Sample Id: 649655-002 Date Collected: 01.20.20 11.15 Sample Depth: 0 - 2.5 ft  
 Analytical Method: BTEX by EPA 8021B Prep Method: SW5030B  
 Tech: JHB % Moisture:  
 Analyst: JHB Date Prep: 01.20.20 17.00 Basis: Wet Weight  
 Seq Number: 3113992

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	01.21.20 03.12	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.21.20 03.12	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.21.20 03.12	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	01.21.20 03.12	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	01.21.20 03.12	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	01.21.20 03.12	U	1
Total BTEX		<0.00199	0.00199	mg/kg	01.21.20 03.12	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	103	%	70-130	01.21.20 03.12		
1,4-Difluorobenzene	540-36-3	103	%	70-130	01.21.20 03.12		



# Certificate of Analytical Results 649655

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **SW12** Matrix: Soil Date Received: 01.20.20 15.20  
 Lab Sample Id: 649655-003 Date Collected: 01.20.20 11.30 Sample Depth: 0 - 2.5 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: JHB % Moisture:  
 Analyst: JHB Date Prep: 01.20.20 16.10 Basis: Wet Weight  
 Seq Number: 3113990

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	320	10.0	mg/kg	01.20.20 22.11		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 01.20.20 17.36 Basis: Wet Weight  
 Seq Number: 3113865

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	01.20.20 22.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	01.20.20 22.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	01.20.20 22.54	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	01.20.20 22.54	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	01.20.20 22.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	01.20.20 22.54	
o-Terphenyl	84-15-1	106	%	70-135	01.20.20 22.54	



# Certificate of Analytical Results 649655

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>SW12</b>	Matrix: Soil	Date Received: 01.20.20 15.20
Lab Sample Id: 649655-003	Date Collected: 01.20.20 11.30	Sample Depth: 0 - 2.5 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: JHB		% Moisture:
Analyst: JHB	Date Prep: 01.20.20 17.00	Basis: Wet Weight
Seq Number: 3113992		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.21.20 03.33	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.21.20 03.33	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.21.20 03.33	U	1
m,p-Xylenes	179601-23-1	<0.00405	0.00405	mg/kg	01.21.20 03.33	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.21.20 03.33	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	01.21.20 03.33	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.21.20 03.33	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	98	%	70-130	01.21.20 03.33		
1,4-Difluorobenzene	540-36-3	101	%	70-130	01.21.20 03.33		



# Certificate of Analytical Results 649655

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **SW13** Matrix: Soil Date Received: 01.20.20 15.20  
 Lab Sample Id: 649655-004 Date Collected: 01.20.20 11.45 Sample Depth: 0 - 2.5 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: JHB % Moisture:  
 Analyst: JHB Date Prep: 01.20.20 16.10 Basis: Wet Weight  
 Seq Number: 3113990

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	234	9.94	mg/kg	01.20.20 22.17		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 01.20.20 17.00 Basis: Wet Weight  
 Seq Number: 3113883

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.20.20 23.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.20.20 23.53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.20.20 23.53	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	01.20.20 23.53	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.20.20 23.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	01.20.20 23.53	
o-Terphenyl	84-15-1	100	%	70-135	01.20.20 23.53	



# Certificate of Analytical Results 649655

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>SW13</b>	Matrix: Soil	Date Received: 01.20.20 15.20
Lab Sample Id: 649655-004	Date Collected: 01.20.20 11.45	Sample Depth: 0 - 2.5 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: JHB		% Moisture:
Analyst: JHB	Date Prep: 01.20.20 16.00	Basis: Wet Weight
Seq Number: 3113991		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.21.20 06.50	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.21.20 06.50	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.21.20 06.50	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	01.21.20 06.50	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.21.20 06.50	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	01.21.20 06.50	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.21.20 06.50	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	101	%	70-130	01.21.20 06.50		
4-Bromofluorobenzene	460-00-4	100	%	70-130	01.21.20 06.50		



# Certificate of Analytical Results 649655

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **SW14** Matrix: Soil Date Received: 01.20.20 15.20  
 Lab Sample Id: 649655-005 Date Collected: 01.20.20 12.00 Sample Depth: 0 - 2.5 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: JHB % Moisture:  
 Analyst: JHB Date Prep: 01.20.20 16.10 Basis: Wet Weight  
 Seq Number: 3113990

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	341	10.1	mg/kg	01.20.20 22.33		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 01.20.20 17.00 Basis: Wet Weight  
 Seq Number: 3113883

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	01.21.20 00.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	01.21.20 00.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	01.21.20 00.13	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	01.21.20 00.13	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	01.21.20 00.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	01.21.20 00.13	
o-Terphenyl	84-15-1	112	%	70-135	01.21.20 00.13	



# Certificate of Analytical Results 649655

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>SW14</b>	Matrix: Soil	Date Received: 01.20.20 15.20
Lab Sample Id: 649655-005	Date Collected: 01.20.20 12.00	Sample Depth: 0 - 2.5 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: JHB		% Moisture:
Analyst: JHB	Date Prep: 01.20.20 16.00	Basis: Wet Weight
Seq Number: 3113991		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.21.20 07.11	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.21.20 07.11	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.21.20 07.11	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	01.21.20 07.11	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.21.20 07.11	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	01.21.20 07.11	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.21.20 07.11	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	98	%	70-130	01.21.20 07.11		
1,4-Difluorobenzene	540-36-3	101	%	70-130	01.21.20 07.11		





LT Environmental, Inc.

Remuda Basin #1

**Analytical Method: Chloride by EPA 300**

Seq Number: 3113990

MB Sample Id: 7694796-1-BLK

Matrix: Solid

LCS Sample Id: 7694796-1-BKS

Prep Method: E300P

Date Prep: 01.20.20

LCSD Sample Id: 7694796-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1.41	250	258	103	258	103	90-110	0	20	mg/kg	01.20.20 21:39	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3113990

Parent Sample Id: 649655-001

Matrix: Soil

MS Sample Id: 649655-001 S

Prep Method: E300P

Date Prep: 01.20.20

MSD Sample Id: 649655-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	29.2	189	287	136	288	137	90-110	0	20	mg/kg	01.20.20 21:50	X

**Analytical Method: Chloride by EPA 300**

Seq Number: 3113990

Parent Sample Id: 649663-010

Matrix: Soil

MS Sample Id: 649663-010 S

Prep Method: E300P

Date Prep: 01.20.20

MSD Sample Id: 649663-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	285	198	553	135	495	107	90-110	11	20	mg/kg	01.20.20 23:44	X

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3113883

MB Sample Id: 7694812-1-BLK

Matrix: Solid

LCS Sample Id: 7694812-1-BKS

Prep Method: SW8015P

Date Prep: 01.20.20

LCSD Sample Id: 7694812-1-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)	<50.0	1000	1090	109	1140	114	70-135	4	35	mg/kg	01.20.20 23:34	
Diesel Range Organics (DRO)	<50.0	1000	1210	121	1100	110	70-135	10	35	mg/kg	01.20.20 23:34	

**Surrogate**

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		116		124		70-135	%	01.20.20 23:34
o-Terphenyl	102		109		117		70-135	%	01.20.20 23:34

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.

Remuda Basin #1

Analytical Method: TPH by SW8015 Mod

Seq Number: 3113865

MB Sample Id: 7694760-1-BLK

Matrix: Solid

LCS Sample Id: 7694760-1-BKS

Prep Method: SW8015P

Date Prep: 01.20.20

LCSD Sample Id: 7694760-1-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)	<50.0	1000	1050	105	1100	110	70-135	5	35	mg/kg	01.20.20 18:57	
Diesel Range Organics (DRO)	<50.0	1000	1060	106	1060	106	70-135	0	35	mg/kg	01.20.20 18:57	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	102		121		118		70-135	%	01.20.20 18:57
o-Terphenyl	100		114		114		70-135	%	01.20.20 18:57

Analytical Method: TPH by SW8015 Mod

Seq Number: 3113883

Matrix: Solid

MB Sample Id: 7694812-1-BLK

Prep Method: SW8015P

Date Prep: 01.20.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.20.20 23:14	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3113865

Matrix: Solid

MB Sample Id: 7694760-1-BLK

Prep Method: SW8015P

Date Prep: 01.20.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.20.20 18:57	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3113883

Parent Sample Id: 649655-004

Matrix: Soil

MS Sample Id: 649655-004 S

Prep Method: SW8015P

Date Prep: 01.20.20

MSD Sample Id: 649655-004 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)	<50.1	1000	1280	128	1170	117	70-135	9	35	mg/kg	01.20.20 23:53	
Diesel Range Organics (DRO)	<50.1	1000	1240	124	1090	109	70-135	13	35	mg/kg	01.20.20 23:53	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	133		129		70-135	%	01.20.20 23:53
o-Terphenyl	129		118		70-135	%	01.20.20 23:53

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.

Remuda Basin #1

Analytical Method: TPH by SW8015 Mod

Seq Number: 3113865

Parent Sample Id: 649573-008

Matrix: Soil

MS Sample Id: 649573-008 S

Prep Method: SW8015P

Date Prep: 01.20.20

MSD Sample Id: 649573-008 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)	<49.9	997	1100	110	1080	108	70-135	2	35	mg/kg	01.20.20 19:37	
Diesel Range Organics (DRO)	<49.9	997	1230	123	1090	109	70-135	12	35	mg/kg	01.20.20 19:37	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	119		121		70-135	%	01.20.20 19:37
o-Terphenyl	108		114		70-135	%	01.20.20 19:37

Analytical Method: BTEX by EPA 8021B

Seq Number: 3113992

MB Sample Id: 7694831-1-BLK

Matrix: Solid

LCS Sample Id: 7694831-1-BKS

Prep Method: SW5030B

Date Prep: 01.20.20

LCSD Sample Id: 7694831-1-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	0.100	0.0978	98	0.0937	94	70-130	4	35	mg/kg	01.20.20 18:14	
Toluene	<0.00200	0.100	0.0943	94	0.0910	91	70-130	4	35	mg/kg	01.20.20 18:14	
Ethylbenzene	<0.00200	0.100	0.0915	92	0.0884	88	71-129	3	35	mg/kg	01.20.20 18:14	
m,p-Xylenes	<0.00400	0.200	0.189	95	0.183	92	70-135	3	35	mg/kg	01.20.20 18:14	
o-Xylene	<0.00200	0.100	0.0932	93	0.0905	91	71-133	3	35	mg/kg	01.20.20 18:14	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		102		101		70-130	%	01.20.20 18:14
4-Bromofluorobenzene	97		98		95		70-130	%	01.20.20 18:14

Analytical Method: BTEX by EPA 8021B

Seq Number: 3113964

MB Sample Id: 7694838-1-BLK

Matrix: Solid

LCS Sample Id: 7694838-1-BKS

Prep Method: SW5030B

Date Prep: 01.20.20

LCSD Sample Id: 7694838-1-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	0.100	0.112	112	0.0972	97	70-130	14	35	mg/kg	01.20.20 18:54	
Toluene	<0.00200	0.100	0.103	103	0.0902	90	70-130	13	35	mg/kg	01.20.20 18:54	
Ethylbenzene	<0.00200	0.100	0.0999	100	0.0877	88	71-129	13	35	mg/kg	01.20.20 18:54	
m,p-Xylenes	<0.00400	0.200	0.196	98	0.173	87	70-135	12	35	mg/kg	01.20.20 18:54	
o-Xylene	<0.00200	0.100	0.0977	98	0.0869	87	71-133	12	35	mg/kg	01.20.20 18:54	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		106		104		70-130	%	01.20.20 18:54
4-Bromofluorobenzene	84		89		92		70-130	%	01.20.20 18:54

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.**  
Remuda Basin #1

**Analytical Method: BTEX by EPA 8021B**

Seq Number: 3113991

MB Sample Id: 7694845-1-BLK

Matrix: Solid

LCS Sample Id: 7694845-1-BKS

Prep Method: SW5030B

Date Prep: 01.20.20

LCSD Sample Id: 7694845-1-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	0.100	0.0906	91	0.0910	91	70-130	0	35	mg/kg	01.21.20 04:54	
Toluene	<0.00200	0.100	0.0883	88	0.0880	88	70-130	0	35	mg/kg	01.21.20 04:54	
Ethylbenzene	<0.00200	0.100	0.0855	86	0.0842	84	71-129	2	35	mg/kg	01.21.20 04:54	
m,p-Xylenes	<0.00400	0.200	0.177	89	0.173	87	70-135	2	35	mg/kg	01.21.20 04:54	
o-Xylene	<0.00200	0.100	0.0882	88	0.0867	87	71-133	2	35	mg/kg	01.21.20 04:54	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		102		101		70-130	%	01.21.20 04:54
4-Bromofluorobenzene	98		97		96		70-130	%	01.21.20 04:54

**Analytical Method: BTEX by EPA 8021B**

Seq Number: 3113992

Parent Sample Id: 649562-001

Matrix: Soil

MS Sample Id: 649562-001 S

Prep Method: SW5030B

Date Prep: 01.20.20

MSD Sample Id: 649562-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0800	80	0.0954	96	70-130	18	35	mg/kg	01.20.20 18:55	
Toluene	<0.00199	0.0994	0.0777	78	0.0924	93	70-130	17	35	mg/kg	01.20.20 18:55	
Ethylbenzene	<0.00199	0.0994	0.0749	75	0.0897	90	71-129	18	35	mg/kg	01.20.20 18:55	
m,p-Xylenes	<0.000749	0.199	0.155	78	0.185	93	70-135	18	35	mg/kg	01.20.20 18:55	
o-Xylene	<0.00199	0.0994	0.0767	77	0.0921	93	71-133	18	35	mg/kg	01.20.20 18:55	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		104		70-130	%	01.20.20 18:55
4-Bromofluorobenzene	99		98		70-130	%	01.20.20 18:55

**Analytical Method: BTEX by EPA 8021B**

Seq Number: 3113964

Parent Sample Id: 649573-008

Matrix: Soil

MS Sample Id: 649573-008 S

Prep Method: SW5030B

Date Prep: 01.20.20

MSD Sample Id: 649573-008 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	0.0998	0.0612	61	0.106	106	70-130	54	35	mg/kg	01.20.20 19:35	XF
Toluene	<0.00200	0.0998	0.0742	74	0.0974	98	70-130	27	35	mg/kg	01.20.20 19:35	
Ethylbenzene	<0.00200	0.0998	0.0775	78	0.0952	96	71-129	20	35	mg/kg	01.20.20 19:35	
m,p-Xylenes	<0.00399	0.200	0.151	76	0.188	94	70-135	22	35	mg/kg	01.20.20 19:35	
o-Xylene	<0.00200	0.0998	0.0780	78	0.0940	94	71-133	19	35	mg/kg	01.20.20 19:35	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	94		108		70-130	%	01.20.20 19:35
4-Bromofluorobenzene	107		94		70-130	%	01.20.20 19:35

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.**  
Remuda Basin #1

**Analytical Method:** BTEX by EPA 8021B

Seq Number: 3113991

Parent Sample Id: 649663-005

Matrix: Soil

MS Sample Id: 649663-005 S

Prep Method: SW5030B

Date Prep: 01.20.20

MSD Sample Id: 649663-005 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	0.0998	0.0816	82	0.0670	66	70-130	20	35		mg/kg	01.21.20 05:35	X
Toluene	<0.00200	0.0998	0.0788	79	0.0665	66	70-130	17	35		mg/kg	01.21.20 05:35	X
Ethylbenzene	<0.00200	0.0998	0.0761	76	0.0645	64	71-129	17	35		mg/kg	01.21.20 05:35	X
m,p-Xylenes	<0.00399	0.200	0.157	79	0.135	67	70-135	15	35		mg/kg	01.21.20 05:35	X
o-Xylene	<0.00200	0.0998	0.0786	79	0.0685	68	71-133	14	35		mg/kg	01.21.20 05:35	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		103		70-130	%	01.21.20 05:35
4-Bromofluorobenzene	99		102		70-130	%	01.21.20 05:35

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



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334  
 Midland, TX (432) 704-5440 EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296  
 Hobbs, NM (575) 392-7550 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000

**Chain of Custody**

Work Order No: 219655

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littlell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 East Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	slc@ltenv.com, dmoir@ltenv.com, kennedy@ltenv.com

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

Project Name:	Remuda Basin #1	Turn Around	
Project Number:	012918058	Routine	<input type="checkbox"/>
P.O. Number:		Rush:	24H
Sampler's Name:	Spencer Lo	Due Date:	

<b>SAMPLE RECEIPT</b>	Temp Blank:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Wet Ice:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Temperature (°C):	2.8	Thermometer ID		
Received Inact:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Correction Factor:	T-N/A-50F	
Cooler Custody Seals:	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Total Containers:	5	
Sample Custody Seals:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A			

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers																
					TPH (EPA 8015)	BTEX (EPA 0-8021)	Chloride (EPA 300.0)														
F006	S	1.20.20	1100	2.5'	X	X	X														
S011	S	1.20.20	1115	0-2.5'	X	X	X														
S012	S	1.20.20	1130	0-2.5'	X	X	X														
S013	S	1.20.20	1145	0-2.5'	X	X	X														
S014	S	1.20.20	1200	0-2.5'	X	X	X														

**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 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenoco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenoco 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 Xenoco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenoco, 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>[Signature]</i>	<i>[Signature]</i>	1/20/20 15:20			

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 01.20.2020 03.20.00 PM

Work Order #: 649655

Acceptable Temperature Range: 0 - 6 degC  
Air and Metal samples Acceptable Range: Ambient  
Temperature Measuring device used : T-NM-007

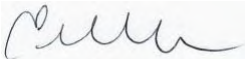
Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.8
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6*Custody Seals Signed and dated?	Yes
#7 *Chain 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:

  
Elizabeth McClellan

Date: 01.20.2020

Checklist reviewed by:

  
Jessica Kramer

Date: 01.21.2020

# Analytical Report 649663

for  
**LT Environmental, Inc.**

**Project Manager: Dan Moir**

**Remuda Basin #1**

**12918058**

**22-JAN-20**

Collected By: Client



**1089 N Canal Street  
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):  
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)  
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):  
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)  
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)  
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)  
Xenco-Carlsbad (LELAP): Louisiana (05092)  
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)  
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)  
Xenco-Tampa: Florida (E87429), North Carolina (483)



22-JAN-20

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

Reference: XENCO Report No(s): **649663**  
**Remuda Basin #1**  
Project Address:

**Dan Moir:**

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) 649663. 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. 649663 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,

**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*

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# Sample Cross Reference 649663

LT Environmental, Inc., Arvada, CO

Remuda Basin #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	01-17-20 14:50	8 ft	649663-001
FS02	S	01-17-20 16:50	9 ft	649663-002
SW01	S	01-17-20 15:00	0 - 8 ft	649663-003
SW02	S	01-17-20 16:00	0 - 9 ft	649663-004
SW03	S	01-17-20 16:10	0 - 9 ft	649663-005
SW04	S	01-17-20 16:20	0 - 9 ft	649663-006
SW05	S	01-17-20 16:30	0 - 8 ft	649663-007
SW06	S	01-17-20 09:15	0 - 8 ft	649663-008
FS03	S	01-17-20 09:30	9 ft	649663-009
FS04	S	01-17-20 12:15	8 ft	649663-010



# CASE NARRATIVE

*Client Name: LT Environmental, Inc.*

*Project Name: Remuda Basin #1*

Project ID: 12918058  
Work Order Number(s): 649663

Report Date: 22-JAN-20  
Date Received: 01/20/2020

### Sample receipt non conformances and comments:

### Sample receipt non conformances and comments per sample:

None

#### **Analytical non conformances and comments:**

Batch: LBA-3113990 Chloride by EPA 300

Lab Sample ID 649663-010 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 649663-001, -002, -003, -004, -005, -006, -007, -008, -009, -010.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3113991 BTEX by EPA 8021B

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

Lab Sample ID 649663-005 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes , o-Xylene recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 649663-001, -002, -003, -004, -005, -006, -007, -008, -009, -010.

The Laboratory Control Sample for Toluene, m,p-Xylenes , Benzene, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.



# Certificate of Analysis Summary 649663

LT Environmental, Inc., Arvada, CO

Project Name: Remuda Basin #1

**Project Id:** 12918058  
**Contact:** Dan Moir  
**Project Location:**

**Date Received in Lab:** Mon Jan-20-20 03:30 pm  
**Report Date:** 22-JAN-20  
**Project Manager:** Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	649663-001	649663-002	649663-003	649663-004	649663-005	649663-006
	<i>Field Id:</i>	FS01	FS02	SW01	SW02	SW03	SW04
	<i>Depth:</i>	8- ft	9- ft	0-8 ft	0-9 ft	0-9 ft	0-9 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jan-17-20 14:50	Jan-17-20 16:50	Jan-17-20 15:00	Jan-17-20 16:00	Jan-17-20 16:10	Jan-17-20 16:20
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Jan-20-20 16:00	Jan-20-20 16:00	Jan-20-20 16:00	Jan-20-20 16:00	Jan-20-20 16:00	Jan-20-20 16:00
	<i>Analyzed:</i>	Jan-21-20 09:13	Jan-21-20 09:33	Jan-21-20 09:54	Jan-21-20 11:09	Jan-21-20 11:29	Jan-21-20 11:50
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00202 0.00202
Toluene		<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00202 0.00202
Ethylbenzene		<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00202 0.00202
m,p-Xylenes		<0.00402 0.00402	<0.00404 0.00404	<0.00403 0.00403	<0.00398 0.00398	<0.00395 0.00395	<0.00404 0.00404
o-Xylene		<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00202 0.00202
Total Xylenes		<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00202 0.00202
Total BTEX		<0.00201 0.00201	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00202 0.00202
<b>Chloride by EPA 300</b>	<i>Extracted:</i>	Jan-20-20 16:10	Jan-20-20 16:10	Jan-20-20 16:10	Jan-20-20 16:10	Jan-20-20 16:10	Jan-20-20 16:10
	<i>Analyzed:</i>	Jan-20-20 22:49	Jan-20-20 22:54	Jan-20-20 23:00	Jan-20-20 23:05	Jan-20-20 23:10	Jan-20-20 22:38
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		325 10.0	264 10.1	650 10.0	386 10.1	342 9.96	1600 20.1
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Jan-20-20 17:00	Jan-20-20 17:00	Jan-20-20 17:00	Jan-20-20 17:00	Jan-20-20 17:00	Jan-20-20 17:00
	<i>Analyzed:</i>	Jan-21-20 01:12	Jan-21-20 01:32	Jan-21-20 01:32	Jan-21-20 01:52	Jan-21-20 02:11	Jan-21-20 02:11
	<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)		<50.0 50.0	<50.1 50.1	<50.1 50.1	<50.2 50.2	<50.1 50.1	<50.3 50.3
Diesel Range Organics (DRO)		<50.0 50.0	<50.1 50.1	<50.1 50.1	<50.2 50.2	<50.1 50.1	<50.3 50.3
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.1 50.1	<50.1 50.1	<50.2 50.2	<50.1 50.1	<50.3 50.3
Total GRO-DRO		<50.0 50.0	<50.1 50.1	<50.1 50.1	<50.2 50.2	<50.1 50.1	<50.3 50.3
Total TPH		<50.0 50.0	<50.1 50.1	<50.1 50.1	<50.2 50.2	<50.1 50.1	<50.3 50.3

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 - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer  
Project Assistant



# Certificate of Analysis Summary 649663

LT Environmental, Inc., Arvada, CO

Project Name: Remuda Basin #1

Project Id: 12918058

Contact: Dan Moir

Project Location:

Date Received in Lab: Mon Jan-20-20 03:30 pm

Report Date: 22-JAN-20

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	649663-007	649663-008	649663-009	649663-010		
	<i>Field Id:</i>	SW05	SW06	FS03	FS04		
	<i>Depth:</i>	0-8 ft	0-8 ft	9- ft	8- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Jan-17-20 16:30	Jan-17-20 09:15	Jan-17-20 09:30	Jan-17-20 12:15		
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Jan-20-20 16:00	Jan-20-20 16:00	Jan-20-20 16:00	Jan-20-20 16:00		
	<i>Analyzed:</i>	Jan-21-20 12:10	Jan-21-20 12:30	Jan-21-20 12:51	Jan-21-20 13:11		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
	Benzene	<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202		
	Toluene	<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202		
	Ethylbenzene	<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202		
	m,p-Xylenes	<0.00403 0.00403	<0.00402 0.00402	<0.00402 0.00402	<0.00404 0.00404		
	o-Xylene	<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202		
Total Xylenes	<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202			
Total BTEX	<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202			
<b>Chloride by EPA 300</b>	<i>Extracted:</i>	Jan-20-20 16:10	Jan-20-20 16:10	Jan-20-20 16:10	Jan-20-20 16:10		
	<i>Analyzed:</i>	Jan-20-20 22:44	Jan-20-20 23:16	Jan-20-20 23:21	Jan-20-20 23:39		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		2010 20.1	457 10.0	451 10.0	285 9.96		
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Jan-20-20 17:00	Jan-20-20 17:00	Jan-20-20 17:00	Jan-20-20 17:00		
	<i>Analyzed:</i>	Jan-21-20 02:31	Jan-21-20 02:31	Jan-21-20 02:51	Jan-21-20 02:51		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
	Gasoline Range Hydrocarbons (GRO)	<50.0 50.0	<50.2 50.2	<50.3 50.3	<50.3 50.3		
	Diesel Range Organics (DRO)	<50.0 50.0	<50.2 50.2	<50.3 50.3	<50.3 50.3		
Motor Oil Range Hydrocarbons (MRO)	<50.0 50.0	<50.2 50.2	<50.3 50.3	<50.3 50.3			
Total GRO-DRO	<50.0 50.0	<50.2 50.2	<50.3 50.3	<50.3 50.3			
Total TPH	<50.0 50.0	<50.2 50.2	<50.3 50.3	<50.3 50.3			

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 - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer  
Project Assistant



# Certificate of Analytical Results 649663

## LT Environmental, Inc., Arvada, CO Remuda Basin #1

Sample Id: **FS01** Matrix: Soil Date Received: 01.20.20 15.30  
 Lab Sample Id: 649663-001 Date Collected: 01.17.20 14.50 Sample Depth: 8 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: JHB % Moisture:  
 Analyst: JHB Date Prep: 01.20.20 16.10 Basis: Wet Weight  
 Seq Number: 3113990

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	325	10.0	mg/kg	01.20.20 22.49		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 01.20.20 17.00 Basis: Wet Weight  
 Seq Number: 3113883

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.21.20 01.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.21.20 01.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.21.20 01.12	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	01.21.20 01.12	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.21.20 01.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	01.21.20 01.12	
o-Terphenyl	84-15-1	101	%	70-135	01.21.20 01.12	



# Certificate of Analytical Results 649663

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>FS01</b>	Matrix: Soil	Date Received: 01.20.20 15.30
Lab Sample Id: 649663-001	Date Collected: 01.17.20 14.50	Sample Depth: 8 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: JHB		% Moisture:
Analyst: JHB	Date Prep: 01.20.20 16.00	Basis: Wet Weight
Seq Number: 3113991		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.21.20 09.13	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.21.20 09.13	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.21.20 09.13	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.21.20 09.13	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.21.20 09.13	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	01.21.20 09.13	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.21.20 09.13	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	104	%	70-130	01.21.20 09.13		
4-Bromofluorobenzene	460-00-4	103	%	70-130	01.21.20 09.13		



# Certificate of Analytical Results 649663

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **FS02** Matrix: Soil Date Received: 01.20.20 15.30  
 Lab Sample Id: 649663-002 Date Collected: 01.17.20 16.50 Sample Depth: 9 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: JHB % Moisture:  
 Analyst: JHB Date Prep: 01.20.20 16.10 Basis: Wet Weight  
 Seq Number: 3113990

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	264	10.1	mg/kg	01.20.20 22.54		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 01.20.20 17.00 Basis: Wet Weight  
 Seq Number: 3113883

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.21.20 01.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	01.21.20 01.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.21.20 01.32	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	01.21.20 01.32	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	01.21.20 01.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	01.21.20 01.32	
o-Terphenyl	84-15-1	89	%	70-135	01.21.20 01.32	



# Certificate of Analytical Results 649663

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>FS02</b>	Matrix: Soil	Date Received: 01.20.20 15.30
Lab Sample Id: 649663-002	Date Collected: 01.17.20 16.50	Sample Depth: 9 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: JHB		% Moisture:
Analyst: JHB	Date Prep: 01.20.20 16.00	Basis: Wet Weight
Seq Number: 3113991		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.21.20 09.33	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.21.20 09.33	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.21.20 09.33	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	01.21.20 09.33	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.21.20 09.33	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	01.21.20 09.33	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.21.20 09.33	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.21.20 09.33		
4-Bromofluorobenzene	460-00-4	99	%	70-130	01.21.20 09.33		



# Certificate of Analytical Results 649663

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **SW01** Matrix: Soil Date Received: 01.20.20 15.30  
 Lab Sample Id: 649663-003 Date Collected: 01.17.20 15.00 Sample Depth: 0 - 8 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: JHB % Moisture:  
 Analyst: JHB Date Prep: 01.20.20 16.10 Basis: Wet Weight  
 Seq Number: 3113990

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	650	10.0	mg/kg	01.20.20 23.00		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 01.20.20 17.00 Basis: Wet Weight  
 Seq Number: 3113883

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.21.20 01.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	01.21.20 01.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.21.20 01.32	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	01.21.20 01.32	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	01.21.20 01.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	01.21.20 01.32	
o-Terphenyl	84-15-1	100	%	70-135	01.21.20 01.32	



# Certificate of Analytical Results 649663

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>SW01</b>	Matrix: Soil	Date Received: 01.20.20 15.30
Lab Sample Id: 649663-003	Date Collected: 01.17.20 15.00	Sample Depth: 0 - 8 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: JHB		% Moisture:
Analyst: JHB	Date Prep: 01.20.20 16.00	Basis: Wet Weight
Seq Number: 3113991		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.21.20 09.54	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.21.20 09.54	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.21.20 09.54	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	01.21.20 09.54	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.21.20 09.54	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	01.21.20 09.54	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.21.20 09.54	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	105	%	70-130	01.21.20 09.54		
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.21.20 09.54		



# Certificate of Analytical Results 649663

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **SW02** Matrix: Soil Date Received: 01.20.20 15.30  
 Lab Sample Id: 649663-004 Date Collected: 01.17.20 16.00 Sample Depth: 0 - 9 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: JHB % Moisture:  
 Analyst: JHB Date Prep: 01.20.20 16.10 Basis: Wet Weight  
 Seq Number: 3113990

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	386	10.1	mg/kg	01.20.20 23.05		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 01.20.20 17.00 Basis: Wet Weight  
 Seq Number: 3113883

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	01.21.20 01.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	01.21.20 01.52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	01.21.20 01.52	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	01.21.20 01.52	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	01.21.20 01.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	01.21.20 01.52	
o-Terphenyl	84-15-1	100	%	70-135	01.21.20 01.52	



# Certificate of Analytical Results 649663

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>SW02</b>	Matrix: Soil	Date Received: 01.20.20 15.30
Lab Sample Id: 649663-004	Date Collected: 01.17.20 16.00	Sample Depth: 0 - 9 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: JHB		% Moisture:
Analyst: JHB	Date Prep: 01.20.20 16.00	Basis: Wet Weight
Seq Number: 3113991		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	01.21.20 11.09	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.21.20 11.09	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.21.20 11.09	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	01.21.20 11.09	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	01.21.20 11.09	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	01.21.20 11.09	U	1
Total BTEX		<0.00199	0.00199	mg/kg	01.21.20 11.09	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	101	%	70-130	01.21.20 11.09		
4-Bromofluorobenzene	460-00-4	99	%	70-130	01.21.20 11.09		



# Certificate of Analytical Results 649663

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **SW03** Matrix: Soil Date Received: 01.20.20 15.30  
 Lab Sample Id: 649663-005 Date Collected: 01.17.20 16.10 Sample Depth: 0 - 9 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: JHB % Moisture:  
 Analyst: JHB Date Prep: 01.20.20 16.10 Basis: Wet Weight  
 Seq Number: 3113990

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	342	9.96	mg/kg	01.20.20 23.10		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 01.20.20 17.00 Basis: Wet Weight  
 Seq Number: 3113883

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.21.20 02.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	01.21.20 02.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.21.20 02.11	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	01.21.20 02.11	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	01.21.20 02.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	01.21.20 02.11	
o-Terphenyl	84-15-1	96	%	70-135	01.21.20 02.11	



# Certificate of Analytical Results 649663

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>SW03</b>	Matrix: Soil	Date Received: 01.20.20 15.30
Lab Sample Id: 649663-005	Date Collected: 01.17.20 16.10	Sample Depth: 0 - 9 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: JHB		% Moisture:
Analyst: JHB	Date Prep: 01.20.20 16.00	Basis: Wet Weight
Seq Number: 3113991		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.21.20 11.29	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.21.20 11.29	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.21.20 11.29	U	1
m,p-Xylenes	179601-23-1	<0.00395	0.00395	mg/kg	01.21.20 11.29	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.21.20 11.29	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	01.21.20 11.29	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.21.20 11.29	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	95	%	70-130	01.21.20 11.29		
1,4-Difluorobenzene	540-36-3	103	%	70-130	01.21.20 11.29		



# Certificate of Analytical Results 649663

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **SW04** Matrix: Soil Date Received: 01.20.20 15.30  
 Lab Sample Id: 649663-006 Date Collected: 01.17.20 16.20 Sample Depth: 0 - 9 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: JHB % Moisture:  
 Analyst: JHB Date Prep: 01.20.20 16.10 Basis: Wet Weight  
 Seq Number: 3113990

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1600	20.1	mg/kg	01.20.20 22.38		2

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 01.20.20 17.00 Basis: Wet Weight  
 Seq Number: 3113883

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	01.21.20 02.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	01.21.20 02.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	01.21.20 02.11	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	01.21.20 02.11	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	01.21.20 02.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	01.21.20 02.11	
o-Terphenyl	84-15-1	98	%	70-135	01.21.20 02.11	



# Certificate of Analytical Results 649663

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>SW04</b>	Matrix: Soil	Date Received: 01.20.20 15.30
Lab Sample Id: 649663-006	Date Collected: 01.17.20 16.20	Sample Depth: 0 - 9 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: JHB		% Moisture:
Analyst: JHB	Date Prep: 01.20.20 16.00	Basis: Wet Weight
Seq Number: 3113991		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.21.20 11.50	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.21.20 11.50	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.21.20 11.50	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	01.21.20 11.50	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.21.20 11.50	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	01.21.20 11.50	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.21.20 11.50	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	101	%	70-130	01.21.20 11.50		
1,4-Difluorobenzene	540-36-3	103	%	70-130	01.21.20 11.50		



# Certificate of Analytical Results 649663

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **SW05** Matrix: Soil Date Received: 01.20.20 15.30  
 Lab Sample Id: 649663-007 Date Collected: 01.17.20 16.30 Sample Depth: 0 - 8 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: JHB % Moisture:  
 Analyst: JHB Date Prep: 01.20.20 16.10 Basis: Wet Weight  
 Seq Number: 3113990

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2010	20.1	mg/kg	01.20.20 22.44		2

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 01.20.20 17.00 Basis: Wet Weight  
 Seq Number: 3113883

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.21.20 02.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.21.20 02.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.21.20 02.31	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	01.21.20 02.31	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.21.20 02.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	01.21.20 02.31	
o-Terphenyl	84-15-1	95	%	70-135	01.21.20 02.31	



# Certificate of Analytical Results 649663

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>SW05</b>	Matrix: Soil	Date Received: 01.20.20 15.30
Lab Sample Id: 649663-007	Date Collected: 01.17.20 16.30	Sample Depth: 0 - 8 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: JHB		% Moisture:
Analyst: JHB	Date Prep: 01.20.20 16.00	Basis: Wet Weight
Seq Number: 3113991		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.21.20 12.10	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.21.20 12.10	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.21.20 12.10	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	01.21.20 12.10	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.21.20 12.10	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	01.21.20 12.10	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.21.20 12.10	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>		<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>
4-Bromofluorobenzene	460-00-4	98		%	70-130	01.21.20 12.10	
1,4-Difluorobenzene	540-36-3	103		%	70-130	01.21.20 12.10	



# Certificate of Analytical Results 649663

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **SW06** Matrix: Soil Date Received: 01.20.20 15.30  
 Lab Sample Id: 649663-008 Date Collected: 01.17.20 09.15 Sample Depth: 0 - 8 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: JHB % Moisture:  
 Analyst: JHB Date Prep: 01.20.20 16.10 Basis: Wet Weight  
 Seq Number: 3113990

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	457	10.0	mg/kg	01.20.20 23.16		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 01.20.20 17.00 Basis: Wet Weight  
 Seq Number: 3113883

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	01.21.20 02.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	01.21.20 02.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	01.21.20 02.31	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	01.21.20 02.31	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	01.21.20 02.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	01.21.20 02.31	
o-Terphenyl	84-15-1	102	%	70-135	01.21.20 02.31	



# Certificate of Analytical Results 649663

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>SW06</b>	Matrix: Soil	Date Received: 01.20.20 15.30
Lab Sample Id: 649663-008	Date Collected: 01.17.20 09.15	Sample Depth: 0 - 8 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: JHB		% Moisture:
Analyst: JHB	Date Prep: 01.20.20 16.00	Basis: Wet Weight
Seq Number: 3113991		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.21.20 12.30	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.21.20 12.30	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.21.20 12.30	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.21.20 12.30	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.21.20 12.30	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	01.21.20 12.30	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.21.20 12.30	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	101	%	70-130	01.21.20 12.30		
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.21.20 12.30		



# Certificate of Analytical Results 649663

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **FS03** Matrix: Soil Date Received: 01.20.20 15.30  
 Lab Sample Id: 649663-009 Date Collected: 01.17.20 09.30 Sample Depth: 9 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: JHB % Moisture:  
 Analyst: JHB Date Prep: 01.20.20 16.10 Basis: Wet Weight  
 Seq Number: 3113990

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	451	10.0	mg/kg	01.20.20 23.21		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 01.20.20 17.00 Basis: Wet Weight  
 Seq Number: 3113883

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	01.21.20 02.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	01.21.20 02.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	01.21.20 02.51	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	01.21.20 02.51	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	01.21.20 02.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	01.21.20 02.51	
o-Terphenyl	84-15-1	95	%	70-135	01.21.20 02.51	



# Certificate of Analytical Results 649663

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>FS03</b>	Matrix: Soil	Date Received: 01.20.20 15.30
Lab Sample Id: 649663-009	Date Collected: 01.17.20 09.30	Sample Depth: 9 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: JHB		% Moisture:
Analyst: JHB	Date Prep: 01.20.20 16.00	Basis: Wet Weight
Seq Number: 3113991		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.21.20 12.51	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.21.20 12.51	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.21.20 12.51	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.21.20 12.51	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.21.20 12.51	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	01.21.20 12.51	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.21.20 12.51	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	101	%	70-130	01.21.20 12.51		
1,4-Difluorobenzene	540-36-3	100	%	70-130	01.21.20 12.51		



# Certificate of Analytical Results 649663

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **FS04** Matrix: Soil Date Received: 01.20.20 15.30  
 Lab Sample Id: 649663-010 Date Collected: 01.17.20 12.15 Sample Depth: 8 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: JHB % Moisture:  
 Analyst: JHB Date Prep: 01.20.20 16.10 Basis: Wet Weight  
 Seq Number: 3113990

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	285	9.96	mg/kg	01.20.20 23.39		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 01.20.20 17.00 Basis: Wet Weight  
 Seq Number: 3113883

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	01.21.20 02.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	01.21.20 02.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	01.21.20 02.51	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	01.21.20 02.51	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	01.21.20 02.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	01.21.20 02.51	
o-Terphenyl	84-15-1	100	%	70-135	01.21.20 02.51	



# Certificate of Analytical Results 649663

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>FS04</b>	Matrix: Soil	Date Received: 01.20.20 15.30
Lab Sample Id: 649663-010	Date Collected: 01.17.20 12.15	Sample Depth: 8 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: JHB		% Moisture:
Analyst: JHB	Date Prep: 01.20.20 16.00	Basis: Wet Weight
Seq Number: 3113991		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.21.20 13.11	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.21.20 13.11	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.21.20 13.11	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	01.21.20 13.11	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.21.20 13.11	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	01.21.20 13.11	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.21.20 13.11	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	103	%	70-130	01.21.20 13.11		
4-Bromofluorobenzene	460-00-4	101	%	70-130	01.21.20 13.11		



## 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.

Remuda Basin #1

**Analytical Method: Chloride by EPA 300**

Seq Number: 3113990

MB Sample Id: 7694796-1-BLK

Matrix: Solid

LCS Sample Id: 7694796-1-BKS

Prep Method: E300P

Date Prep: 01.20.20

LCSD Sample Id: 7694796-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1.41	250	258	103	258	103	90-110	0	20	mg/kg	01.20.20 21:39	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3113990

Parent Sample Id: 649655-001

Matrix: Soil

MS Sample Id: 649655-001 S

Prep Method: E300P

Date Prep: 01.20.20

MSD Sample Id: 649655-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	29.2	189	287	136	288	137	90-110	0	20	mg/kg	01.20.20 21:50	X

**Analytical Method: Chloride by EPA 300**

Seq Number: 3113990

Parent Sample Id: 649663-010

Matrix: Soil

MS Sample Id: 649663-010 S

Prep Method: E300P

Date Prep: 01.20.20

MSD Sample Id: 649663-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	285	198	553	135	495	107	90-110	11	20	mg/kg	01.20.20 23:44	X

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3113883

MB Sample Id: 7694812-1-BLK

Matrix: Solid

LCS Sample Id: 7694812-1-BKS

Prep Method: SW8015P

Date Prep: 01.20.20

LCSD Sample Id: 7694812-1-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)	<50.0	1000	1090	109	1140	114	70-135	4	35	mg/kg	01.20.20 23:34	
Diesel Range Organics (DRO)	<50.0	1000	1210	121	1100	110	70-135	10	35	mg/kg	01.20.20 23:34	

**Surrogate**

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		116		124		70-135	%	01.20.20 23:34
o-Terphenyl	102		109		117		70-135	%	01.20.20 23:34

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3113883

MB Sample Id: 7694812-1-BLK

Matrix: Solid

Prep Method: SW8015P

Date Prep: 01.20.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.20.20 23:14	

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.

Remuda Basin #1

Analytical Method: TPH by SW8015 Mod

Seq Number: 3113883

Parent Sample Id: 649655-004

Matrix: Soil

MS Sample Id: 649655-004 S

Prep Method: SW8015P

Date Prep: 01.20.20

MSD Sample Id: 649655-004 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)	<50.1	1000	1280	128	1170	117	70-135	9	35	mg/kg	01.20.20 23:53	
Diesel Range Organics (DRO)	<50.1	1000	1240	124	1090	109	70-135	13	35	mg/kg	01.20.20 23:53	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	133		129		70-135	%	01.20.20 23:53
o-Terphenyl	129		118		70-135	%	01.20.20 23:53

Analytical Method: BTEX by EPA 8021B

Seq Number: 3113991

MB Sample Id: 7694845-1-BLK

Matrix: Solid

LCS Sample Id: 7694845-1-BKS

Prep Method: SW5030B

Date Prep: 01.20.20

LCSD Sample Id: 7694845-1-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	0.100	0.0906	91	0.0910	91	70-130	0	35	mg/kg	01.21.20 04:54	
Toluene	<0.00200	0.100	0.0883	88	0.0880	88	70-130	0	35	mg/kg	01.21.20 04:54	
Ethylbenzene	<0.00200	0.100	0.0855	86	0.0842	84	71-129	2	35	mg/kg	01.21.20 04:54	
m,p-Xylenes	<0.00400	0.200	0.177	89	0.173	87	70-135	2	35	mg/kg	01.21.20 04:54	
o-Xylene	<0.00200	0.100	0.0882	88	0.0867	87	71-133	2	35	mg/kg	01.21.20 04:54	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		102		101		70-130	%	01.21.20 04:54
4-Bromofluorobenzene	98		97		96		70-130	%	01.21.20 04:54

Analytical Method: BTEX by EPA 8021B

Seq Number: 3113991

Parent Sample Id: 649663-005

Matrix: Soil

MS Sample Id: 649663-005 S

Prep Method: SW5030B

Date Prep: 01.20.20

MSD Sample Id: 649663-005 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	0.0998	0.0816	82	0.0670	66	70-130	20	35	mg/kg	01.21.20 05:35	X
Toluene	<0.00200	0.0998	0.0788	79	0.0665	66	70-130	17	35	mg/kg	01.21.20 05:35	X
Ethylbenzene	<0.00200	0.0998	0.0761	76	0.0645	64	71-129	17	35	mg/kg	01.21.20 05:35	X
m,p-Xylenes	<0.00399	0.200	0.157	79	0.135	67	70-135	15	35	mg/kg	01.21.20 05:35	X
o-Xylene	<0.00200	0.0998	0.0786	79	0.0685	68	71-133	14	35	mg/kg	01.21.20 05:35	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		103		70-130	%	01.21.20 05:35
4-Bromofluorobenzene	99		102		70-130	%	01.21.20 05:35

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



# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 01.20.2020 03.30.00 PM

Work Order #: 649663

Acceptable Temperature Range: 0 - 6 degC  
Air and Metal samples Acceptable Range: Ambient  
Temperature Measuring device used : T-NM-007

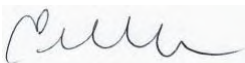
Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	2.8
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6*Custody Seals Signed and dated?	Yes
#7 *Chain 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:

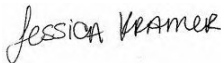
PH Device/Lot#:

Checklist completed by:

  
Elizabeth McClellan

Date: 01.20.2020

Checklist reviewed by:

  
Jessica Kramer

Date: 01.21.2020

# Analytical Report 655308

for

**LT Environmental, Inc.**

**Project Manager: Dan Moir**

**Remuda Basin Battery #1**

**012918058**

**13-MAR-20**

Collected By: Client



**1089 N Canal Street  
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)  
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)

Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)

Xenco-Carlsbad (LELAP): Louisiana (05092)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)

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

Xenco-Tampa: Florida (E87429), North Carolina (483)



13-MAR-20

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

Reference: XENCO Report No(s): **655308**  
**Remuda Basin Battery #1**  
Project Address:

**Dan Moir:**

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) 655308. 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. 655308 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,

**Jessica Kramer**  
Project Manager

*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 655308

LT Environmental, Inc., Arvada, CO

Remuda Basin Battery #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH 10	S	03-09-20 10:35	2 ft	655308-001
PH 10A	S	03-09-20 10:42	3 ft	655308-002
PH 10B	S	03-09-20 10:50	3.5 ft	655308-003
SW 15	S	03-10-20 16:00	0 - 9 ft	655308-004



## CASE NARRATIVE

*Client Name: LT Environmental, Inc.*

*Project Name: Remuda Basin Battery #1*

Project ID: 012918058  
Work Order Number(s): 655308

Report Date: 13-MAR-20  
Date Received: 03/11/2020

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### **Sample receipt non conformances and comments:**

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### **Sample receipt non conformances and comments per sample:**

None

### **Analytical non conformances and comments:**

Batch: LBA-3119320 BTEX by EPA 8021B

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



# Certificate of Analysis Summary 655308

LT Environmental, Inc., Arvada, CO

Project Name: Remuda Basin Battery #1

**Project Id:** 012918058  
**Contact:** Dan Moir  
**Project Location:**

**Date Received in Lab:** Wed Mar-11-20 11:20 am  
**Report Date:** 13-MAR-20  
**Project Manager:** Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	655308-001	655308-002	655308-003	655308-004		
	<i>Field Id:</i>	PH 10	PH 10A	PH 10B	SW 15		
	<i>Depth:</i>	2- ft	3- ft	3.5- ft	0-9 ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Mar-09-20 10:35	Mar-09-20 10:42	Mar-09-20 10:50	Mar-10-20 16:00		
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Mar-11-20 13:00	Mar-11-20 13:00	Mar-11-20 13:00	Mar-11-20 13:00		
	<i>Analyzed:</i>	Mar-11-20 16:49	Mar-11-20 17:15	Mar-11-20 17:42	Mar-11-20 18:03		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
	Benzene	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00202 0.00202		
	Toluene	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00202 0.00202		
	Ethylbenzene	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00202 0.00202		
	m,p-Xylenes	<0.00398 0.00398	<0.00400 0.00400	<0.00404 0.00404	<0.00404 0.00404		
	o-Xylene	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00202 0.00202		
Total Xylenes	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00202 0.00202			
Total BTEX	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00202 0.00202			
<b>Chloride by EPA 300</b>	<i>Extracted:</i>	Mar-11-20 11:48	Mar-11-20 11:48	Mar-11-20 11:48	Mar-11-20 11:48		
	<i>Analyzed:</i>	Mar-11-20 12:52	Mar-11-20 12:57	Mar-11-20 13:03	Mar-11-20 13:09		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		65.0 10.0	93.9 9.92	95.5 10.1	852 49.9		
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Mar-11-20 12:20	Mar-11-20 12:20	Mar-11-20 12:20	Mar-11-20 12:20		
	<i>Analyzed:</i>	Mar-11-20 14:34	Mar-11-20 14:34	Mar-11-20 15:35	Mar-11-20 15:35		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
	Gasoline Range Hydrocarbons (GRO)	<50.2 50.2	<50.2 50.2	<50.2 50.2	<49.9 49.9		
	Diesel Range Organics (DRO)	<50.2 50.2	<50.2 50.2	<50.2 50.2	<49.9 49.9		
	Motor Oil Range Hydrocarbons (MRO)	<50.2 50.2	<50.2 50.2	<50.2 50.2	<49.9 49.9		
Total GRO-DRO	<50.2 50.2	<50.2 50.2	<50.2 50.2	<49.9 49.9			
Total TPH	<50.2 50.2	<50.2 50.2	<50.2 50.2	<49.9 49.9			

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 - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer  
Project Manager



# Certificate of Analytical Results 655308

## LT Environmental, Inc., Arvada, CO

### Remuda Basin Battery #1

Sample Id: **PH 10** Matrix: Soil Date Received: 03.11.20 11.20  
 Lab Sample Id: 655308-001 Date Collected: 03.09.20 10.35 Sample Depth: 2 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 03.11.20 11.48 Basis: Wet Weight  
 Seq Number: 3119239

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	65.0	10.0	mg/kg	03.11.20 12.52		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 03.11.20 12.20 Basis: Wet Weight  
 Seq Number: 3119329

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	03.11.20 14.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	03.11.20 14.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	03.11.20 14.34	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	03.11.20 14.34	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	03.11.20 14.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	03.11.20 14.34	
o-Terphenyl	84-15-1	97	%	70-135	03.11.20 14.34	



# Certificate of Analytical Results 655308

## LT Environmental, Inc., Arvada, CO

### Remuda Basin Battery #1

Sample Id: <b>PH 10</b>	Matrix: Soil	Date Received: 03.11.20 11.20
Lab Sample Id: 655308-001	Date Collected: 03.09.20 10.35	Sample Depth: 2 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 03.11.20 13.00	Basis: Wet Weight
Seq Number: 3119320		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.11.20 16.49	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.11.20 16.49	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.11.20 16.49	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.11.20 16.49	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.11.20 16.49	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.11.20 16.49	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.11.20 16.49	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	113	%	70-130	03.11.20 16.49		
4-Bromofluorobenzene	460-00-4	94	%	70-130	03.11.20 16.49		



# Certificate of Analytical Results 655308

## LT Environmental, Inc., Arvada, CO

### Remuda Basin Battery #1

Sample Id: **PH 10A** Matrix: Soil Date Received: 03.11.20 11.20  
 Lab Sample Id: 655308-002 Date Collected: 03.09.20 10.42 Sample Depth: 3 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 03.11.20 11.48 Basis: Wet Weight  
 Seq Number: 3119239

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	93.9	9.92	mg/kg	03.11.20 12.57		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 03.11.20 12.20 Basis: Wet Weight  
 Seq Number: 3119334

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	03.11.20 14.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	03.11.20 14.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	03.11.20 14.34	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	03.11.20 14.34	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	03.11.20 14.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-135	03.11.20 14.34	
o-Terphenyl	84-15-1	83	%	70-135	03.11.20 14.34	



# Certificate of Analytical Results 655308

## LT Environmental, Inc., Arvada, CO

### Remuda Basin Battery #1

Sample Id: <b>PH 10A</b>	Matrix: Soil	Date Received: 03.11.20 11.20
Lab Sample Id: 655308-002	Date Collected: 03.09.20 10.42	Sample Depth: 3 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 03.11.20 13.00	Basis: Wet Weight
Seq Number: 3119320		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.11.20 17.15	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.11.20 17.15	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.11.20 17.15	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	03.11.20 17.15	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.11.20 17.15	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.11.20 17.15	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.11.20 17.15	U	1
			%				
<b>Surrogate</b>	<b>Cas Number</b>	<b>Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	107	%	70-130	03.11.20 17.15		
4-Bromofluorobenzene	460-00-4	84	%	70-130	03.11.20 17.15		



# Certificate of Analytical Results 655308

## LT Environmental, Inc., Arvada, CO

### Remuda Basin Battery #1

Sample Id: **PH 10B** Matrix: Soil Date Received: 03.11.20 11.20  
 Lab Sample Id: 655308-003 Date Collected: 03.09.20 10.50 Sample Depth: 3.5 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 03.11.20 11.48 Basis: Wet Weight  
 Seq Number: 3119239

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	95.5	10.1	mg/kg	03.11.20 13.03		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 03.11.20 12.20 Basis: Wet Weight  
 Seq Number: 3119334

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	03.11.20 15.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	03.11.20 15.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	03.11.20 15.35	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	03.11.20 15.35	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	03.11.20 15.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	03.11.20 15.35	
o-Terphenyl	84-15-1	99	%	70-135	03.11.20 15.35	



# Certificate of Analytical Results 655308

## LT Environmental, Inc., Arvada, CO

### Remuda Basin Battery #1

Sample Id: <b>PH 10B</b>	Matrix: Soil	Date Received: 03.11.20 11.20
Lab Sample Id: 655308-003	Date Collected: 03.09.20 10.50	Sample Depth: 3.5 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 03.11.20 13.00	Basis: Wet Weight
Seq Number: 3119320		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	03.11.20 17.42	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	03.11.20 17.42	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	03.11.20 17.42	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	03.11.20 17.42	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	03.11.20 17.42	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	03.11.20 17.42	U	1
Total BTEX		<0.00202	0.00202	mg/kg	03.11.20 17.42	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	110	%	70-130	03.11.20 17.42		
4-Bromofluorobenzene	460-00-4	88	%	70-130	03.11.20 17.42		



# Certificate of Analytical Results 655308

## LT Environmental, Inc., Arvada, CO

### Remuda Basin Battery #1

Sample Id: **SW 15** Matrix: Soil Date Received: 03.11.20 11.20  
 Lab Sample Id: 655308-004 Date Collected: 03.10.20 16.00 Sample Depth: 0 - 9 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 03.11.20 11.48 Basis: Wet Weight  
 Seq Number: 3119239

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	852	49.9	mg/kg	03.11.20 13.09		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 03.11.20 12.20 Basis: Wet Weight  
 Seq Number: 3119329

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	03.11.20 15.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	03.11.20 15.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	03.11.20 15.35	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	03.11.20 15.35	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	03.11.20 15.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	03.11.20 15.35	
o-Terphenyl	84-15-1	91	%	70-135	03.11.20 15.35	



# Certificate of Analytical Results 655308

## LT Environmental, Inc., Arvada, CO

### Remuda Basin Battery #1

Sample Id: <b>SW 15</b>	Matrix: Soil	Date Received: 03.11.20 11.20
Lab Sample Id: 655308-004	Date Collected: 03.10.20 16.00	Sample Depth: 0 - 9 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 03.11.20 13.00	Basis: Wet Weight
Seq Number: 3119320		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	03.11.20 18.03	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	03.11.20 18.03	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	03.11.20 18.03	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	03.11.20 18.03	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	03.11.20 18.03	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	03.11.20 18.03	U	1
Total BTEX		<0.00202	0.00202	mg/kg	03.11.20 18.03	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>		<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>
4-Bromofluorobenzene	460-00-4	81		%	70-130	03.11.20 18.03	
1,4-Difluorobenzene	540-36-3	88		%	70-130	03.11.20 18.03	





LT Environmental, Inc.  
Remuda Basin Battery #1

Analytical Method: Chloride by EPA 300

Seq Number: 3119239

MB Sample Id: 7698564-1-BLK

Matrix: Solid

LCS Sample Id: 7698564-1-BKS

Prep Method: E300P

Date Prep: 03.11.20

LCSD Sample Id: 7698564-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	258	103	258	103	90-110	0	20	mg/kg	03.11.20 11:23	

Analytical Method: Chloride by EPA 300

Seq Number: 3119239

Parent Sample Id: 655268-001

Matrix: Soil

MS Sample Id: 655268-001 S

Prep Method: E300P

Date Prep: 03.11.20

MSD Sample Id: 655268-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	485	198	692	105	703	110	90-110	2	20	mg/kg	03.11.20 11:42	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3119329

MB Sample Id: 7698656-1-BLK

Matrix: Solid

LCS Sample Id: 7698656-1-BKS

Prep Method: SW8015P

Date Prep: 03.11.20

LCSD Sample Id: 7698656-1-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)	<50.0	1000	940	94	915	92	70-135	3	35	mg/kg	03.11.20 13:53	
Diesel Range Organics (DRO)	<50.0	1000	1010	101	983	98	70-135	3	35	mg/kg	03.11.20 13:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		111		107		70-135	%	03.11.20 13:53
o-Terphenyl	102		109		105		70-135	%	03.11.20 13:53

Analytical Method: TPH by SW8015 Mod

Seq Number: 3119334

MB Sample Id: 7698657-1-BLK

Matrix: Solid

LCS Sample Id: 7698657-1-BKS

Prep Method: SW8015P

Date Prep: 03.11.20

LCSD Sample Id: 7698657-1-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)	<50.0	1000	921	92	872	87	70-135	5	35	mg/kg	03.11.20 13:53	
Diesel Range Organics (DRO)	<50.0	1000	1080	108	1000	100	70-135	8	35	mg/kg	03.11.20 13:53	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	112		119		123		70-135	%	03.11.20 13:53
o-Terphenyl	131		131		116		70-135	%	03.11.20 13:53

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.**  
Remuda Basin Battery #1

**Analytical Method:** TPH by SW8015 Mod  
**Seq Number:** 3119329

**Matrix:** Solid  
**MB Sample Id:** 7698656-1-BLK

**Prep Method:** SW8015P  
**Date Prep:** 03.11.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	03.11.20 13:33	

**Analytical Method:** TPH by SW8015 Mod  
**Seq Number:** 3119334

**Matrix:** Solid  
**MB Sample Id:** 7698657-1-BLK

**Prep Method:** SW8015P  
**Date Prep:** 03.11.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	03.11.20 13:33	

**Analytical Method:** TPH by SW8015 Mod  
**Seq Number:** 3119329  
**Parent Sample Id:** 655308-001

**Matrix:** Soil  
**MS Sample Id:** 655308-001 S

**Prep Method:** SW8015P  
**Date Prep:** 03.11.20  
**MSD Sample Id:** 655308-001 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)	<50.0	1000	832	83	875	88	70-135	5	35	mg/kg	03.11.20 14:54	
Diesel Range Organics (DRO)	<50.0	1000	883	88	943	94	70-135	7	35	mg/kg	03.11.20 14:54	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		105		70-135	%	03.11.20 14:54
o-Terphenyl	95		103		70-135	%	03.11.20 14:54

**Analytical Method:** TPH by SW8015 Mod  
**Seq Number:** 3119334  
**Parent Sample Id:** 655308-002

**Matrix:** Soil  
**MS Sample Id:** 655308-002 S

**Prep Method:** SW8015P  
**Date Prep:** 03.11.20  
**MSD Sample Id:** 655308-002 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)	<50.2	1000	811	81	887	89	70-135	9	35	mg/kg	03.11.20 14:54	
Diesel Range Organics (DRO)	<50.2	1000	869	87	965	97	70-135	10	35	mg/kg	03.11.20 14:54	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	111		106		70-135	%	03.11.20 14:54
o-Terphenyl	98		107		70-135	%	03.11.20 14:54

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.**  
Remuda Basin Battery #1

**Analytical Method: BTEX by EPA 8021B**

Seq Number: 3119320

MB Sample Id: 7698620-1-BLK

Matrix: Solid

LCS Sample Id: 7698620-1-BKS

Prep Method: SW5030B

Date Prep: 03.11.20

LCSD Sample Id: 7698620-1-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	0.100	0.117	117	0.121	121	70-130	3	35	mg/kg	03.11.20 15:07	
Toluene	<0.00200	0.100	0.106	106	0.109	109	70-130	3	35	mg/kg	03.11.20 15:07	
Ethylbenzene	<0.00200	0.100	0.100	100	0.103	103	71-129	3	35	mg/kg	03.11.20 15:07	
m,p-Xylenes	<0.00400	0.200	0.194	97	0.198	99	70-135	2	35	mg/kg	03.11.20 15:07	
o-Xylene	<0.00200	0.100	0.0992	99	0.102	102	71-133	3	35	mg/kg	03.11.20 15:07	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	114		111		111		70-130	%	03.11.20 15:07
4-Bromofluorobenzene	91		90		88		70-130	%	03.11.20 15:07

**Analytical Method: BTEX by EPA 8021B**

Seq Number: 3119320

Parent Sample Id: 655308-001

Matrix: Soil

MS Sample Id: 655308-001 S

Prep Method: SW5030B

Date Prep: 03.11.20

MSD Sample Id: 655308-001 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	0.0998	0.117	117	0.113	113	70-130	3	35	mg/kg	03.11.20 15:48	
Toluene	<0.00200	0.0998	0.105	105	0.0991	99	70-130	6	35	mg/kg	03.11.20 15:48	
Ethylbenzene	<0.00200	0.0998	0.0967	97	0.0873	87	71-129	10	35	mg/kg	03.11.20 15:48	
m,p-Xylenes	<0.00399	0.200	0.186	93	0.167	84	70-135	11	35	mg/kg	03.11.20 15:48	
o-Xylene	<0.00200	0.0998	0.0935	94	0.0848	85	71-133	10	35	mg/kg	03.11.20 15:48	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		111		70-130	%	03.11.20 15:48
4-Bromofluorobenzene	86		91		70-130	%	03.11.20 15:48

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



Chain of Custody

Work Order No: 1655308

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334  
 Midland, TX (432-704-5440) EL Paso, TX (915)585-3443 Lubbock, TX (806)794-1296

Project Manager: Dan Moir  
 Company Name: LT Environmental, Inc., Permian office  
 Address: 3300 North A Street  
 City, State ZIP: Midland, TX 79705  
 Phone: 432.704.5178  
 Email: [dmoir@lenv.com](mailto:dmoir@lenv.com) [cagbor@lenv.com](mailto:cagbor@lenv.com)

Bill to: (if different) Kyle Littrel  
 Company Name: XTO-Energy  
 Address:  
 City, State ZIP: Carlsbad, NM

Program:  UST/PST  PRP  Brownfields  RC  Superfund  
 State of Project:  
 Reporting Level:  Level II  Level III  ST/UST  RRP  Level IV   
 Deliverables:  EDD  ADAPT  Other:

Project Name: Remuda Basin Part 4 # 1 Turn Around  
 Project Number: 012918058 Routine   
 P.O. Number: Rush: 3 DAYS  
 Sampler's Name: Chris Agbor Due Date:

SAMPLE RECEIPT  
 Temperature (°C): 1.0 Temp Blank:  Yes  No Wet Ice:  Yes  No  
 Received Intact:  Yes  No Thermometer ID: TNMM007  
 Cooler Custody Seals:  Yes  No Correction Factor: -0.2  
 Sample Custody Seals:  Yes  No Total Containers: 4

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers			Work Order Notes
					TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	
PH 10	S	3/9/20	1035	2	1	X	X	COMPOSITE
PH 10A	S	3/9/20	1042	3	1	X	X	COMPOSITE
PH 10B	S	3/9/20	1050	3.5	1	X	X	COMPOSITE
SW 15	S	3/10/20	1600	0-9	1	X	X	COMPOSITE

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 1631 / 245.1 / 7470 / 7471 : Hg

Relinquished by: (Signature) [Signature] Date/Time 3/11/20 11:30 Received by: (Signature) [Signature] Date/Time

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 03.11.2020 11.20.00 AM

Work Order #: 655308

Acceptable Temperature Range: 0 - 6 degC  
Air and Metal samples Acceptable Range: Ambient  
Temperature Measuring device used : T-NM-007

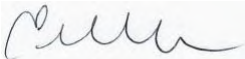
Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	1
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6*Custody Seals Signed and dated?	Yes
#7 *Chain 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:

  
Elizabeth McClellan

Date: 03.11.2020

Checklist reviewed by:

  
Jessica Kramer

Date: 03.13.2020

# Analytical Report 657640

for  
**LT Environmental, Inc.**

**Project Manager: Dan Moir**

**Remuda Basin #1**

**012918058**

**02-APR-20**

Collected By: Client



**1089 N Canal Street  
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):  
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)  
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):  
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)  
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)  
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)  
Xenco-Carlsbad (LELAP): Louisiana (05092)  
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)  
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)  
Xenco-Tampa: Florida (E87429), North Carolina (483)



02-APR-20

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

Reference: XENCO Report No(s): **657640**  
**Remuda Basin #1**  
Project Address:

**Dan Moir:**

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) 657640. 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. 657640 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,

**Jessica Kramer**  
Project Manager

*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 657640

LT Environmental, Inc., Arvada, CO

Remuda Basin #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW05A	S	04-01-20 10:30	2 ft	657640-001
SW05B	S	04-01-20 10:50	6 ft	657640-002
SW04A	S	04-01-20 10:40	4 ft	657640-003
SW04B	S	04-01-20 11:00	8 ft	657640-004



**CASE NARRATIVE**

*Client Name: LT Environmental, Inc.*

*Project Name: Remuda Basin #1*

Project ID: 012918058  
Work Order Number(s): 657640

Report Date: 02-APR-20  
Date Received: 04/01/2020

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**Sample receipt non conformances and comments:**

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**Sample receipt non conformances and comments per sample:**

None

**Analytical non conformances and comments:**

Batch: LBA-3121698 BTEX by EPA 8021B

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

Batch: LBA-3121704 Chloride by EPA 300

Lab Sample ID 657640-004 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 657640-001, -002, -003, -004.

The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.



# Certificate of Analysis Summary 657640

LT Environmental, Inc., Arvada, CO

Project Name: Remuda Basin #1

**Project Id:** 012918058  
**Contact:** Dan Moir  
**Project Location:**

**Date Received in Lab:** Wed Apr-01-20 04:58 pm  
**Report Date:** 02-APR-20  
**Project Manager:** Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	657640-001	657640-002	657640-003	657640-004		
	<i>Field Id:</i>	SW05A	SW05B	SW04A	SW04B		
	<i>Depth:</i>	2- ft	6- ft	4- ft	8- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Apr-01-20 10:30	Apr-01-20 10:50	Apr-01-20 10:40	Apr-01-20 11:00		
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	Apr-01-20 20:09	Apr-01-20 20:09	Apr-01-20 20:09	Apr-01-20 20:09		
	<i>Analyzed:</i>	Apr-02-20 03:28	Apr-02-20 03:48	Apr-02-20 04:09	Apr-02-20 04:29		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
	Benzene	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199		
	Toluene	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199		
	Ethylbenzene	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199		
	m,p-Xylenes	<0.00404 0.00404	<0.00398 0.00398	<0.00398 0.00398	<0.00398 0.00398		
	o-Xylene	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199		
Total Xylenes	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199			
Total BTEX	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199			
<b>Chloride by EPA 300</b>	<i>Extracted:</i>	Apr-01-20 18:38	Apr-01-20 18:38	Apr-01-20 18:38	Apr-01-20 18:38		
	<i>Analyzed:</i>	Apr-01-20 23:14	Apr-01-20 23:20	Apr-01-20 23:26	Apr-01-20 23:32		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		2280 49.9	5470 49.6	2620 49.8	2100 X 50.2		
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	Apr-02-20 09:00	Apr-02-20 09:00	Apr-02-20 09:00	Apr-02-20 09:00		
	<i>Analyzed:</i>	Apr-02-20 12:34	Apr-02-20 12:55	Apr-02-20 13:15	Apr-02-20 13:36		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
	Gasoline Range Hydrocarbons (GRO)	<50.3 50.3	<50.0 50.0	<49.8 49.8	<50.2 50.2		
	Diesel Range Organics (DRO)	<50.3 50.3	<50.0 50.0	<49.8 49.8	<50.2 50.2		
	Motor Oil Range Hydrocarbons (MRO)	<50.3 50.3	<50.0 50.0	<49.8 49.8	<50.2 50.2		
Total GRO-DRO	<50.3 50.3	<50.0 50.0	<49.8 49.8	<50.2 50.2			
Total TPH	<50.3 50.3	<50.0 50.0	<49.8 49.8	<50.2 50.2			

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 - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Version: 1.9%

Jessica Kramer  
Project Manager



# Certificate of Analytical Results 657640

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **SW05A** Matrix: Soil Date Received: 04.01.20 16.58  
 Lab Sample Id: 657640-001 Date Collected: 04.01.20 10.30 Sample Depth: 2 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 04.01.20 18.38 Basis: Wet Weight  
 Seq Number: 3121704

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2280	49.9	mg/kg	04.01.20 23.14		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 04.02.20 09.00 Basis: Wet Weight  
 Seq Number: 3121741

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	04.02.20 12.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	04.02.20 12.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	04.02.20 12.34	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	04.02.20 12.34	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	04.02.20 12.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	04.02.20 12.34	
o-Terphenyl	84-15-1	110	%	70-135	04.02.20 12.34	



# Certificate of Analytical Results 657640

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>SW05A</b>	Matrix: Soil	Date Received: 04.01.20 16.58
Lab Sample Id: 657640-001	Date Collected: 04.01.20 10.30	Sample Depth: 2 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 04.01.20 20.09	Basis: Wet Weight
Seq Number: 3121698		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	04.02.20 03.28	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	04.02.20 03.28	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	04.02.20 03.28	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	04.02.20 03.28	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	04.02.20 03.28	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	04.02.20 03.28	U	1
Total BTEX		<0.00202	0.00202	mg/kg	04.02.20 03.28	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	94	%	70-130	04.02.20 03.28		
1,4-Difluorobenzene	540-36-3	109	%	70-130	04.02.20 03.28		



# Certificate of Analytical Results 657640

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **SW05B** Matrix: Soil Date Received: 04.01.20 16.58  
 Lab Sample Id: 657640-002 Date Collected: 04.01.20 10.50 Sample Depth: 6 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 04.01.20 18.38 Basis: Wet Weight  
 Seq Number: 3121704

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5470	49.6	mg/kg	04.01.20 23.20		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 04.02.20 09.00 Basis: Wet Weight  
 Seq Number: 3121741

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.02.20 12.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.02.20 12.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.02.20 12.55	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.02.20 12.55	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.02.20 12.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	04.02.20 12.55	
o-Terphenyl	84-15-1	110	%	70-135	04.02.20 12.55	



# Certificate of Analytical Results 657640

## LT Environmental, Inc., Arvada, CO Remuda Basin #1

Sample Id: <b>SW05B</b>	Matrix: Soil	Date Received: 04.01.20 16.58
Lab Sample Id: 657640-002	Date Collected: 04.01.20 10.50	Sample Depth: 6 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 04.01.20 20.09	Basis: Wet Weight
Seq Number: 3121698		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.02.20 03.48	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.02.20 03.48	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.02.20 03.48	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.02.20 03.48	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.02.20 03.48	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.02.20 03.48	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.02.20 03.48	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>		<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>
4-Bromofluorobenzene	460-00-4	95		%	70-130	04.02.20 03.48	
1,4-Difluorobenzene	540-36-3	110		%	70-130	04.02.20 03.48	



# Certificate of Analytical Results 657640

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **SW04A** Matrix: Soil Date Received: 04.01.20 16.58  
 Lab Sample Id: 657640-003 Date Collected: 04.01.20 10.40 Sample Depth: 4 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 04.01.20 18.38 Basis: Wet Weight  
 Seq Number: 3121704

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2620	49.8	mg/kg	04.01.20 23.26		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 04.02.20 09.00 Basis: Wet Weight  
 Seq Number: 3121741

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.02.20 13.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.02.20 13.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.02.20 13.15	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	04.02.20 13.15	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.02.20 13.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	04.02.20 13.15	
o-Terphenyl	84-15-1	106	%	70-135	04.02.20 13.15	



# Certificate of Analytical Results 657640

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>SW04A</b>	Matrix: Soil	Date Received: 04.01.20 16.58
Lab Sample Id: 657640-003	Date Collected: 04.01.20 10.40	Sample Depth: 4 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 04.01.20 20.09	Basis: Wet Weight
Seq Number: 3121698		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.02.20 04.09	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.02.20 04.09	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.02.20 04.09	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.02.20 04.09	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.02.20 04.09	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.02.20 04.09	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.02.20 04.09	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	112	%	70-130	04.02.20 04.09		
4-Bromofluorobenzene	460-00-4	100	%	70-130	04.02.20 04.09		



# Certificate of Analytical Results 657640

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **SW04B** Matrix: Soil Date Received: 04.01.20 16.58  
 Lab Sample Id: 657640-004 Date Collected: 04.01.20 11.00 Sample Depth: 8 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 04.01.20 18.38 Basis: Wet Weight  
 Seq Number: 3121704

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2100	50.2	mg/kg	04.01.20 23.32	X	5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 04.02.20 09.00 Basis: Wet Weight  
 Seq Number: 3121741

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	04.02.20 13.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	04.02.20 13.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	04.02.20 13.36	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	04.02.20 13.36	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	04.02.20 13.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	04.02.20 13.36	
o-Terphenyl	84-15-1	107	%	70-135	04.02.20 13.36	



# Certificate of Analytical Results 657640

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>SW04B</b>	Matrix: Soil	Date Received: 04.01.20 16.58
Lab Sample Id: 657640-004	Date Collected: 04.01.20 11.00	Sample Depth: 8 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 04.01.20 20.09	Basis: Wet Weight
Seq Number: 3121698		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.02.20 04.29	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.02.20 04.29	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.02.20 04.29	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.02.20 04.29	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.02.20 04.29	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.02.20 04.29	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.02.20 04.29	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
1,4-Difluorobenzene	540-36-3	110	%	70-130	04.02.20 04.29		
4-Bromofluorobenzene	460-00-4	96	%	70-130	04.02.20 04.29		





**LT Environmental, Inc.**  
Remuda Basin #1

**Analytical Method: Chloride by EPA 300**

Seq Number: 3121704

MB Sample Id: 7700329-1-BLK

Matrix: Solid

LCS Sample Id: 7700329-1-BKS

Prep Method: E300P

Date Prep: 04.01.20

LCSD Sample Id: 7700329-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	257	103	253	101	90-110	2	20	mg/kg	04.01.20 21:55	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3121704

Parent Sample Id: 657638-003

Matrix: Soil

MS Sample Id: 657638-003 S

Prep Method: E300P

Date Prep: 04.01.20

MSD Sample Id: 657638-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	65.5	200	257	96	259	97	90-110	1	20	mg/kg	04.01.20 22:11	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3121704

Parent Sample Id: 657640-004

Matrix: Soil

MS Sample Id: 657640-004 S

Prep Method: E300P

Date Prep: 04.01.20

MSD Sample Id: 657640-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2100	247	2380	113	2400	121	90-110	1	20	mg/kg	04.01.20 23:38	X

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3121741

MB Sample Id: 7700357-1-BLK

Matrix: Solid

LCS Sample Id: 7700357-1-BKS

Prep Method: SW8015P

Date Prep: 04.02.20

LCSD Sample Id: 7700357-1-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)	<50.0	1000	990	99	890	89	70-135	11	35	mg/kg	04.02.20 09:28	
Diesel Range Organics (DRO)	<50.0	1000	1150	115	1020	102	70-135	12	35	mg/kg	04.02.20 09:28	

**Surrogate**

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		124		107		70-135	%	04.02.20 09:28
o-Terphenyl	109		121		106		70-135	%	04.02.20 09:28

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3121741

MB Sample Id: 7700357-1-BLK

Matrix: Solid

Prep Method: SW8015P

Date Prep: 04.02.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	04.02.20 09:07	

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.

Remuda Basin #1

Analytical Method: TPH by SW8015 Mod

Seq Number: 3121741

Parent Sample Id: 657638-007

Matrix: Soil

MS Sample Id: 657638-007 S

Prep Method: SW8015P

Date Prep: 04.02.20

MSD Sample Id: 657638-007 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)	<49.8	995	842	85	815	82	70-135	3	35	mg/kg	04.02.20 10:29	
Diesel Range Organics (DRO)	<49.8	995	978	98	948	95	70-135	3	35	mg/kg	04.02.20 10:29	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	126		133		70-135	%	04.02.20 10:29
o-Terphenyl	126		122		70-135	%	04.02.20 10:29

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121698

MB Sample Id: 7700318-1-BLK

Matrix: Solid

LCS Sample Id: 7700318-1-BKS

Prep Method: SW5030B

Date Prep: 04.01.20

LCSD Sample Id: 7700318-1-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	0.100	0.105	105	0.104	104	70-130	1	35	mg/kg	04.02.20 01:26	
Toluene	<0.00200	0.100	0.0990	99	0.0988	99	70-130	0	35	mg/kg	04.02.20 01:26	
Ethylbenzene	<0.00200	0.100	0.0926	93	0.0922	92	71-129	0	35	mg/kg	04.02.20 01:26	
m,p-Xylenes	<0.00400	0.200	0.190	95	0.188	94	70-135	1	35	mg/kg	04.02.20 01:26	
o-Xylene	<0.00200	0.100	0.0973	97	0.0965	97	71-133	1	35	mg/kg	04.02.20 01:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		108		109		70-130	%	04.02.20 01:26
4-Bromofluorobenzene	97		92		95		70-130	%	04.02.20 01:26

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121698

Parent Sample Id: 657364-045

Matrix: Soil

MS Sample Id: 657364-045 S

Prep Method: SW5030B

Date Prep: 04.01.20

MSD Sample Id: 657364-045 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	0.0956	96	0.0928	93	70-130	3	35	mg/kg	04.02.20 02:06	
Toluene	<0.00200	0.100	0.0888	89	0.0881	89	70-130	1	35	mg/kg	04.02.20 02:06	
Ethylbenzene	<0.00200	0.100	0.0830	83	0.0816	82	71-129	2	35	mg/kg	04.02.20 02:06	
m,p-Xylenes	<0.00401	0.200	0.171	86	0.168	84	70-135	2	35	mg/kg	04.02.20 02:06	
o-Xylene	<0.00200	0.100	0.0866	87	0.0852	86	71-133	2	35	mg/kg	04.02.20 02:06	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		108		70-130	%	04.02.20 02:06
4-Bromofluorobenzene	94		95		70-130	%	04.02.20 02:06

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



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334  
 Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296  
 Hobbs, NM (575) 392-7550 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000

**Chain of Custody**

Work Order No: 10971040

Project Manager: Dan Moir  
 Company Name: LT Environmental Inc., Permian office  
 Address: 3300 North A Street  
 City, State ZIP: Midland, TX 79705  
 Phone: (432) 236-3849  
 Email: slc@ltenv.com, dmoir@ltenv.com, kkenedy@ltenv.com

Bill to: (if different)  
 Company Name: Kyle Littlell  
 Address: 3104 East Green Street  
 City, State ZIP: Carlsbad, NM 88220

Program:  UST/PST  RP  Brownfields  RRC  Dupertund  
 State of Project:  Level I  Level II  Level III  ST/UST  RRP  Level IV   
 Reporting Level:  Level I  Level II  Level III  Level IV   
 Deliverables:  EDD  ADAPT  Other:

Project Name: Remuda Basin #1 Turn Around  
 Project Number: 012918058 Routine   
 P.O. Number: Rush: 24H  
 Sampler's Name: Spencer Lo Due Date:

**SAMPLE RECEIPT** Temp Blank:  Yes  No Wet Ice:  Yes  No  
 Temperature (°C): 3.0 Thermometer ID  
 Received Intact:  Yes  No Correction Factor: FNMD07  
 Cooler Custody Seals: Yes  No N/A Total Containers: 4  
 Sample Custody Seals: Yes  No N/A

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers			Sample Comments
					TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	
<u>SW05A</u>	S	<u>4-1-20</u>	<u>1030</u>	<u>2'</u>	X	X	X	
<u>SW05B</u>	S	<u>4-1-20</u>	<u>1050</u>	<u>6'</u>	X	X	X	
<u>SW04A</u>	S	<u>4-1-20</u>	<u>1040</u>	<u>4'</u>	X	X	X	
<u>SW04B</u>	S	<u>4-1-20</u>	<u>1100</u>	<u>8'</u>	X	X	X	

**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  
 TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag TI U 1631 / 245.1 / 7470 / 7471 : Hg

Circle Method(s) and Metal(s) to be analyzed

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature) \_\_\_\_\_ Date/Time \_\_\_\_\_ Received by: (Signature) \_\_\_\_\_ Date/Time \_\_\_\_\_

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04.01.2020 04.58.00 PM

Work Order #: 657640

Acceptable Temperature Range: 0 - 6 degC  
Air and Metal samples Acceptable Range: Ambient  
Temperature Measuring device used : T-NM-007

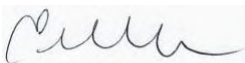
Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6*Custody Seals Signed and dated?	Yes
#7 *Chain 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:

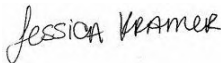
PH Device/Lot#:

Checklist completed by:

  
Elizabeth McClellan

Date: 04.01.2020

Checklist reviewed by:

  
Jessica Kramer

Date: 04.02.2020

# Analytical Report 657642

for  
LT Environmental, Inc.

Project Manager: Dan Moir

Remuda Basin #1

012918058

02-APR-20

Collected By: Client



1089 N Canal Street  
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):  
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)  
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):  
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)  
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)  
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)  
Xenco-Carlsbad (LELAP): Louisiana (05092)  
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)  
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)  
Xenco-Tampa: Florida (E87429), North Carolina (483)



02-APR-20

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

Reference: XENCO Report No(s): **657642**  
**Remuda Basin #1**  
Project Address:

**Dan Moir:**

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) 657642. 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. 657642 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,

**Jessica Kramer**  
Project Manager

*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 657642

LT Environmental, Inc., Arvada, CO

Remuda Basin #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW16	S	04-01-20 14:25	0 - 8 ft	657642-001



## CASE NARRATIVE

*Client Name: LT Environmental, Inc.*

*Project Name: Remuda Basin #1*

Project ID: 012918058  
Work Order Number(s): 657642

Report Date: 02-APR-20  
Date Received: 04/01/2020

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### **Sample receipt non conformances and comments:**

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### **Sample receipt non conformances and comments per sample:**

None

### **Analytical non conformances and comments:**

Batch: LBA-3121698 BTEX by EPA 8021B

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



# Certificate of Analysis Summary 657642

LT Environmental, Inc., Arvada, CO

Project Name: Remuda Basin #1

Project Id: 012918058

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed Apr-01-20 04:58 pm

Report Date: 02-APR-20

Project Manager: Jessica Kramer

<b>Analysis Requested</b>	<b>Lab Id:</b>	657642-001				
	<b>Field Id:</b>	SW16				
	<b>Depth:</b>	0-8 ft				
	<b>Matrix:</b>	SOIL				
	<b>Sampled:</b>	Apr-01-20 14:25				
<b>BTEX by EPA 8021B</b>	<b>Extracted:</b>	Apr-01-20 20:09				
	<b>Analyzed:</b>	Apr-02-20 05:10				
	<b>Units/RL:</b>	mg/kg RL				
	Benzene	<0.00200 0.00200				
	Toluene	<0.00200 0.00200				
	Ethylbenzene	<0.00200 0.00200				
	m,p-Xylenes	<0.00401 0.00401				
	o-Xylene	<0.00200 0.00200				
Total Xylenes	<0.00200 0.00200					
Total BTEX	<0.00200 0.00200					
<b>Chloride by EPA 300</b>	<b>Extracted:</b>	Apr-01-20 18:38				
	<b>Analyzed:</b>	Apr-02-20 00:08				
	<b>Units/RL:</b>	mg/kg RL				
Chloride	182 50.1					
<b>TPH by SW8015 Mod</b>	<b>Extracted:</b>	Apr-02-20 09:00				
	<b>Analyzed:</b>	Apr-02-20 14:16				
	<b>Units/RL:</b>	mg/kg RL				
	Gasoline Range Hydrocarbons (GRO)	<49.9 49.9				
	Diesel Range Organics (DRO)	<49.9 49.9				
	Motor Oil Range Hydrocarbons (MRO)	<49.9 49.9				
	Total GRO-DRO	<49.9 49.9				
Total TPH	<49.9 49.9					

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 - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer  
Project Manager



# Certificate of Analytical Results 657642

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **SW16** Matrix: Soil Date Received: 04.01.20 16.58  
 Lab Sample Id: 657642-001 Date Collected: 04.01.20 14.25 Sample Depth: 0 - 8 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 04.01.20 18.38 Basis: Wet Weight  
 Seq Number: 3121704

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	182	50.1	mg/kg	04.02.20 00.08		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 04.02.20 09.00 Basis: Wet Weight  
 Seq Number: 3121741

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	04.02.20 14.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.02.20 14.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.02.20 14.16	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.02.20 14.16	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.02.20 14.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	04.02.20 14.16	
o-Terphenyl	84-15-1	104	%	70-135	04.02.20 14.16	



# Certificate of Analytical Results 657642

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: <b>SW16</b>	Matrix: Soil	Date Received: 04.01.20 16.58
Lab Sample Id: 657642-001	Date Collected: 04.01.20 14.25	Sample Depth: 0 - 8 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 04.01.20 20.09	Basis: Wet Weight
Seq Number: 3121698		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.02.20 05.10	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.02.20 05.10	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.02.20 05.10	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	04.02.20 05.10	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.02.20 05.10	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.02.20 05.10	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.02.20 05.10	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>		<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>
4-Bromofluorobenzene	460-00-4	96		%	70-130	04.02.20 05.10	
1,4-Difluorobenzene	540-36-3	111		%	70-130	04.02.20 05.10	





LT Environmental, Inc.

Remuda Basin #1

**Analytical Method: Chloride by EPA 300**

Seq Number: 3121704

MB Sample Id: 7700329-1-BLK

Matrix: Solid

LCS Sample Id: 7700329-1-BKS

Prep Method: E300P

Date Prep: 04.01.20

LCSD Sample Id: 7700329-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	257	103	253	101	90-110	2	20	mg/kg	04.01.20 21:55	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3121704

Parent Sample Id: 657638-003

Matrix: Soil

MS Sample Id: 657638-003 S

Prep Method: E300P

Date Prep: 04.01.20

MSD Sample Id: 657638-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	65.5	200	257	96	259	97	90-110	1	20	mg/kg	04.01.20 22:11	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3121704

Parent Sample Id: 657640-004

Matrix: Soil

MS Sample Id: 657640-004 S

Prep Method: E300P

Date Prep: 04.01.20

MSD Sample Id: 657640-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2100	247	2380	113	2400	121	90-110	1	20	mg/kg	04.01.20 23:38	X

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3121741

MB Sample Id: 7700357-1-BLK

Matrix: Solid

LCS Sample Id: 7700357-1-BKS

Prep Method: SW8015P

Date Prep: 04.02.20

LCSD Sample Id: 7700357-1-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)	<50.0	1000	990	99	890	89	70-135	11	35	mg/kg	04.02.20 09:28	
Diesel Range Organics (DRO)	<50.0	1000	1150	115	1020	102	70-135	12	35	mg/kg	04.02.20 09:28	

**Surrogate**

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		124		107		70-135	%	04.02.20 09:28
o-Terphenyl	109		121		106		70-135	%	04.02.20 09:28

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3121741

MB Sample Id: 7700357-1-BLK

Matrix: Solid

Prep Method: SW8015P

Date Prep: 04.02.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	04.02.20 09:07	

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.

Remuda Basin #1

Analytical Method: TPH by SW8015 Mod

Seq Number: 3121741

Parent Sample Id: 657638-007

Matrix: Soil

MS Sample Id: 657638-007 S

Prep Method: SW8015P

Date Prep: 04.02.20

MSD Sample Id: 657638-007 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)	<49.8	995	842	85	815	82	70-135	3	35	mg/kg	04.02.20 10:29	
Diesel Range Organics (DRO)	<49.8	995	978	98	948	95	70-135	3	35	mg/kg	04.02.20 10:29	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	126		133		70-135	%	04.02.20 10:29
o-Terphenyl	126		122		70-135	%	04.02.20 10:29

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121698

MB Sample Id: 7700318-1-BLK

Matrix: Solid

LCS Sample Id: 7700318-1-BKS

Prep Method: SW5030B

Date Prep: 04.01.20

LCSD Sample Id: 7700318-1-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	0.100	0.105	105	0.104	104	70-130	1	35	mg/kg	04.02.20 01:26	
Toluene	<0.00200	0.100	0.0990	99	0.0988	99	70-130	0	35	mg/kg	04.02.20 01:26	
Ethylbenzene	<0.00200	0.100	0.0926	93	0.0922	92	71-129	0	35	mg/kg	04.02.20 01:26	
m,p-Xylenes	<0.00400	0.200	0.190	95	0.188	94	70-135	1	35	mg/kg	04.02.20 01:26	
o-Xylene	<0.00200	0.100	0.0973	97	0.0965	97	71-133	1	35	mg/kg	04.02.20 01:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		108		109		70-130	%	04.02.20 01:26
4-Bromofluorobenzene	97		92		95		70-130	%	04.02.20 01:26

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121698

Parent Sample Id: 657364-045

Matrix: Soil

MS Sample Id: 657364-045 S

Prep Method: SW5030B

Date Prep: 04.01.20

MSD Sample Id: 657364-045 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	0.0956	96	0.0928	93	70-130	3	35	mg/kg	04.02.20 02:06	
Toluene	<0.00200	0.100	0.0888	89	0.0881	89	70-130	1	35	mg/kg	04.02.20 02:06	
Ethylbenzene	<0.00200	0.100	0.0830	83	0.0816	82	71-129	2	35	mg/kg	04.02.20 02:06	
m,p-Xylenes	<0.00401	0.200	0.171	86	0.168	84	70-135	2	35	mg/kg	04.02.20 02:06	
o-Xylene	<0.00200	0.100	0.0866	87	0.0852	86	71-133	2	35	mg/kg	04.02.20 02:06	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		108		70-130	%	04.02.20 02:06
4-Bromofluorobenzene	94		95		70-130	%	04.02.20 02:06

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



### Chain of Custody

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334  
 Midland, TX (432-704-5440) EL Paso, TX (915)585-3443 Lubbock, TX (806)794-1296  
 Hobbs, NM (575-392-7550) Phoenix, AZ (480-365-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

Work Order No: 0576492

www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Litrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 East Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	slg@ltenv.com, dmoir@ltenv.com, kkenedy@ltenv.com

Program: <input type="checkbox"/> UST/ <input type="checkbox"/> PST State of Project: <input type="checkbox"/> PRP <input type="checkbox"/> Brownfields <input type="checkbox"/> RCR <input type="checkbox"/> Superfund Reporting: Level II <input type="checkbox"/> Level III <input type="checkbox"/> ST/UST <input type="checkbox"/> RRP <input type="checkbox"/> Level IV <input type="checkbox"/> Deliverables: EDD <input type="checkbox"/> ADAPT <input type="checkbox"/> Other:	<b>Work Order Comments</b>  <b>Work Order Notes</b>
--	---

Project Name:	Penuda Basin #1	Turn Around	<input type="checkbox"/>
Project Number:	012918058	Routine	<input type="checkbox"/>
P.O. Number:		Rush:	2.4H
Sampler's Name:	Spencer LO	Due Date:	

<b>SAMPLE RECEIPT</b>	Temp Blank:	<input checked="" type="radio"/> Yes <input type="radio"/> No	Wet Ice:	<input checked="" type="radio"/> Yes <input type="radio"/> No
Temperature (°C):	2.0	Thermometer ID		
Received In tact:	<input checked="" type="radio"/> Yes <input type="radio"/> No	Correction Factor: TMM007		
Cooler Custody Seals:	Yes <input type="radio"/> No <input type="radio"/> N/A	Total Containers: -0-2		
Sample Custody Seals:	Yes <input type="radio"/> No <input type="radio"/> N/A			

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers			ANALYSIS REQUEST											Sample Comments																
					TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu		Cu	Pb	Mg	Mn	Mo	Ni	K	Se	Ag	SiO2	Na	Sr	Ti	Sn	U	V
SW16	S	4-1-20	1425	6-8'	1	X	X	X																											

**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    1631 / 245.1 / 7470 / 7471 : Hg

Relinquished by: (Signature) \_\_\_\_\_ Received by: (Signature) \_\_\_\_\_ Date/Time: 4/1/20 16:58

Relinquished by: (Signature) \_\_\_\_\_ Received by: (Signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04.01.2020 04.58.00 PM

Work Order #: 657642

Acceptable Temperature Range: 0 - 6 degC  
Air and Metal samples Acceptable Range: Ambient  
Temperature Measuring device used : T-Nm-007

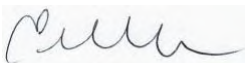
Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6*Custody Seals Signed and dated?	Yes
#7 *Chain 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:

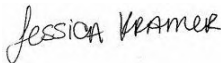
PH Device/Lot#:

Checklist completed by:

  
Elizabeth McClellan

Date: 04.01.2020

Checklist reviewed by:

  
Jessica Kramer

Date: 04.02.2020

# Analytical Report 657641

for  
**LT Environmental, Inc.**

**Project Manager: Dan Moir**

**Remuda Basin #1**

**012918058**

**02-APR-20**

Collected By: Client



**1089 N Canal Street  
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):  
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)  
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):  
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)  
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)  
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)  
Xenco-Carlsbad (LELAP): Louisiana (05092)  
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)  
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)  
Xenco-Tampa: Florida (E87429), North Carolina (483)



02-APR-20

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

Reference: XENCO Report No(s): **657641**  
**Remuda Basin #1**  
Project Address:

**Dan Moir:**

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) 657641. 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. 657641 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,

**Jessica Kramer**  
Project Manager

*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 657641

LT Environmental, Inc., Arvada, CO

Remuda Basin #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS07	S	04-01-20 14:35	8 ft	657641-001



## CASE NARRATIVE

*Client Name: LT Environmental, Inc.*

*Project Name: Remuda Basin #1*

Project ID: 012918058  
Work Order Number(s): 657641

Report Date: 02-APR-20  
Date Received: 04/01/2020

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### **Sample receipt non conformances and comments:**

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### **Sample receipt non conformances and comments per sample:**

None

### **Analytical non conformances and comments:**

Batch: LBA-3121698 BTEX by EPA 8021B

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



# Certificate of Analysis Summary 657641

LT Environmental, Inc., Arvada, CO

Project Name: Remuda Basin #1

**Project Id:** 012918058  
**Contact:** Dan Moir  
**Project Location:**

**Date Received in Lab:** Wed Apr-01-20 04:58 pm  
**Report Date:** 02-APR-20  
**Project Manager:** Jessica Kramer

<b>Analysis Requested</b>	<b>Lab Id:</b>	657641-001				
	<b>Field Id:</b>	FS07				
	<b>Depth:</b>	8- ft				
	<b>Matrix:</b>	SOIL				
	<b>Sampled:</b>	Apr-01-20 14:35				
<b>BTEX by EPA 8021B</b>	<b>Extracted:</b>	Apr-01-20 20:09				
	<b>Analyzed:</b>	Apr-02-20 04:50				
	<b>Units/RL:</b>	mg/kg RL				
	Benzene	<0.00200 0.00200				
	Toluene	<0.00200 0.00200				
	Ethylbenzene	<0.00200 0.00200				
	m,p-Xylenes	<0.00400 0.00400				
	o-Xylene	<0.00200 0.00200				
Total Xylenes	<0.00200 0.00200					
Total BTEX	<0.00200 0.00200					
<b>Chloride by EPA 300</b>	<b>Extracted:</b>	Apr-01-20 18:38				
	<b>Analyzed:</b>	Apr-01-20 23:50				
	<b>Units/RL:</b>	mg/kg RL				
Chloride	261 50.1					
<b>TPH by SW8015 Mod</b>	<b>Extracted:</b>	Apr-02-20 09:00				
	<b>Analyzed:</b>	Apr-02-20 13:56				
	<b>Units/RL:</b>	mg/kg RL				
	Gasoline Range Hydrocarbons (GRO)	<50.2 50.2				
	Diesel Range Organics (DRO)	<50.2 50.2				
	Motor Oil Range Hydrocarbons (MRO)	<50.2 50.2				
	Total GRO-DRO	<50.2 50.2				
Total TPH	<50.2 50.2					

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 - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer  
Project Manager



# Certificate of Analytical Results 657641

## LT Environmental, Inc., Arvada, CO

### Remuda Basin #1

Sample Id: **FS07** Matrix: Soil Date Received: 04.01.20 16.58  
 Lab Sample Id: 657641-001 Date Collected: 04.01.20 14.35 Sample Depth: 8 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 04.01.20 18.38 Basis: Wet Weight  
 Seq Number: 3121704

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	261	50.1	mg/kg	04.01.20 23.50		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 04.02.20 09.00 Basis: Wet Weight  
 Seq Number: 3121741

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	04.02.20 13.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	04.02.20 13.56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	04.02.20 13.56	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	04.02.20 13.56	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	04.02.20 13.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	04.02.20 13.56	
o-Terphenyl	84-15-1	109	%	70-135	04.02.20 13.56	



# Certificate of Analytical Results 657641

## LT Environmental, Inc., Arvada, CO Remuda Basin #1

Sample Id: <b>FS07</b>	Matrix: Soil	Date Received: 04.01.20 16.58
Lab Sample Id: 657641-001	Date Collected: 04.01.20 14.35	Sample Depth: 8 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 04.01.20 20.09	Basis: Wet Weight
Seq Number: 3121698		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	04.02.20 04.50	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	04.02.20 04.50	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	04.02.20 04.50	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	04.02.20 04.50	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	04.02.20 04.50	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	04.02.20 04.50	U	1
Total BTEX		<0.00200	0.00200	mg/kg	04.02.20 04.50	U	1
<b>Surrogate</b>	<b>Cas Number</b>	<b>% Recovery</b>	<b>Units</b>	<b>Limits</b>	<b>Analysis Date</b>	<b>Flag</b>	
4-Bromofluorobenzene	460-00-4	98	%	70-130	04.02.20 04.50		
1,4-Difluorobenzene	540-36-3	110	%	70-130	04.02.20 04.50		





LT Environmental, Inc.

Remuda Basin #1

**Analytical Method: Chloride by EPA 300**

Seq Number: 3121704

MB Sample Id: 7700329-1-BLK

Matrix: Solid

LCS Sample Id: 7700329-1-BKS

Prep Method: E300P

Date Prep: 04.01.20

LCSD Sample Id: 7700329-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	257	103	253	101	90-110	2	20	mg/kg	04.01.20 21:55	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3121704

Parent Sample Id: 657638-003

Matrix: Soil

MS Sample Id: 657638-003 S

Prep Method: E300P

Date Prep: 04.01.20

MSD Sample Id: 657638-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	65.5	200	257	96	259	97	90-110	1	20	mg/kg	04.01.20 22:11	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3121704

Parent Sample Id: 657640-004

Matrix: Soil

MS Sample Id: 657640-004 S

Prep Method: E300P

Date Prep: 04.01.20

MSD Sample Id: 657640-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2100	247	2380	113	2400	121	90-110	1	20	mg/kg	04.01.20 23:38	X

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3121741

MB Sample Id: 7700357-1-BLK

Matrix: Solid

LCS Sample Id: 7700357-1-BKS

Prep Method: SW8015P

Date Prep: 04.02.20

LCSD Sample Id: 7700357-1-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)	<50.0	1000	990	99	890	89	70-135	11	35	mg/kg	04.02.20 09:28	
Diesel Range Organics (DRO)	<50.0	1000	1150	115	1020	102	70-135	12	35	mg/kg	04.02.20 09:28	

**Surrogate**

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		124		107		70-135	%	04.02.20 09:28
o-Terphenyl	109		121		106		70-135	%	04.02.20 09:28

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3121741

MB Sample Id: 7700357-1-BLK

Matrix: Solid

Prep Method: SW8015P

Date Prep: 04.02.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	04.02.20 09:07	

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.

Remuda Basin #1

Analytical Method: TPH by SW8015 Mod

Seq Number: 3121741

Parent Sample Id: 657638-007

Matrix: Soil

MS Sample Id: 657638-007 S

Prep Method: SW8015P

Date Prep: 04.02.20

MSD Sample Id: 657638-007 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)	<49.8	995	842	85	815	82	70-135	3	35	mg/kg	04.02.20 10:29	
Diesel Range Organics (DRO)	<49.8	995	978	98	948	95	70-135	3	35	mg/kg	04.02.20 10:29	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	126		133		70-135	%	04.02.20 10:29
o-Terphenyl	126		122		70-135	%	04.02.20 10:29

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121698

MB Sample Id: 7700318-1-BLK

Matrix: Solid

LCS Sample Id: 7700318-1-BKS

Prep Method: SW5030B

Date Prep: 04.01.20

LCSD Sample Id: 7700318-1-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	0.100	0.105	105	0.104	104	70-130	1	35	mg/kg	04.02.20 01:26	
Toluene	<0.00200	0.100	0.0990	99	0.0988	99	70-130	0	35	mg/kg	04.02.20 01:26	
Ethylbenzene	<0.00200	0.100	0.0926	93	0.0922	92	71-129	0	35	mg/kg	04.02.20 01:26	
m,p-Xylenes	<0.00400	0.200	0.190	95	0.188	94	70-135	1	35	mg/kg	04.02.20 01:26	
o-Xylene	<0.00200	0.100	0.0973	97	0.0965	97	71-133	1	35	mg/kg	04.02.20 01:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		108		109		70-130	%	04.02.20 01:26
4-Bromofluorobenzene	97		92		95		70-130	%	04.02.20 01:26

Analytical Method: BTEX by EPA 8021B

Seq Number: 3121698

Parent Sample Id: 657364-045

Matrix: Soil

MS Sample Id: 657364-045 S

Prep Method: SW5030B

Date Prep: 04.01.20

MSD Sample Id: 657364-045 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	0.0956	96	0.0928	93	70-130	3	35	mg/kg	04.02.20 02:06	
Toluene	<0.00200	0.100	0.0888	89	0.0881	89	70-130	1	35	mg/kg	04.02.20 02:06	
Ethylbenzene	<0.00200	0.100	0.0830	83	0.0816	82	71-129	2	35	mg/kg	04.02.20 02:06	
m,p-Xylenes	<0.00401	0.200	0.171	86	0.168	84	70-135	2	35	mg/kg	04.02.20 02:06	
o-Xylene	<0.00200	0.100	0.0866	87	0.0852	86	71-133	2	35	mg/kg	04.02.20 02:06	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	108		108		70-130	%	04.02.20 02:06
4-Bromofluorobenzene	94		95		70-130	%	04.02.20 02:06

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



# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04.01.2020 04.58.00 PM

Work Order #: 657641

Acceptable Temperature Range: 0 - 6 degC  
Air and Metal samples Acceptable Range: Ambient  
Temperature Measuring device used : T-NM-007

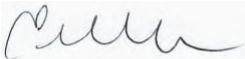
Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6*Custody Seals Signed and dated?	Yes
#7 *Chain 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:

  
Elizabeth McClellan

Date: 04.01.2020

Checklist reviewed by:

  
Jessica Kramer

Date: 04.02.2020



# Analytical Report 660038

for

**LT Environmental, Inc.**

**Project Manager: Dan Moir**

**Remuda Basin Battery #1**

**012918058**

**04.29.2020**

Collected By: Client

**1089 N Canal Street  
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):  
Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)  
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):  
Texas (TX104704295-19-22), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)  
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21)  
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)  
Xenco-Carlsbad (LELAP): Louisiana (05092)  
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5)  
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)  
Xenco-Tampa: Florida (E87429), North Carolina (483)



04.29.2020

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

Reference: XENCO Report No(s): **660038**  
**Remuda Basin Battery #1**  
Project Address:

**Dan Moir:**


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) 660038. 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. 660038 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,

  
\_\_\_\_\_  
**Jessica Kramer**  
Project Manager

*A Small Business and Minority Company*

Houston - Dallas - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico



# Sample Cross Reference 660038

LT Environmental, Inc., Arvada, CO

Remuda Basin Battery #1

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW17	S	04.28.2020 09:11	2.0 ft	660038-001
SW18	S	04.28.2020 09:22	4.0 ft	660038-002
SW05	S	04.28.2020 13:52	12.0 ft	660038-003
SW04	S	04.28.2020 15:03	16.0 ft	660038-004



## CASE NARRATIVE

*Client Name: LT Environmental, Inc.*

*Project Name: Remuda Basin Battery #1*

Project ID: 012918058  
Work Order Number(s): 660038

Report Date: 04.29.2020  
Date Received: 04.28.2020

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### **Sample receipt non conformances and comments:**

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### **Sample receipt non conformances and comments per sample:**

None

### **Analytical non conformances and comments:**

Batch: LBA-3124503 TPH by SW8015 Mod

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

Samples affected are: 659919-021 SD.



# Certificate of Analysis Summary 660038

LT Environmental, Inc., Arvada, CO

Project Name: Remuda Basin Battery #1

Project Id: 012918058

Contact: Dan Moir

Project Location:

Date Received in Lab: Tue 04.28.2020 16:39

Report Date: 04.29.2020 16:23

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	660038-001	660038-002	660038-003	660038-004		
	<i>Field Id:</i>	SW17	SW18	SW05	SW04		
	<i>Depth:</i>	2.0- ft	4.0- ft	12.0- ft	16.0- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	04.28.2020 09:11	04.28.2020 09:22	04.28.2020 13:52	04.28.2020 15:03		
<b>BTEX by EPA 8021B</b>	<i>Extracted:</i>	04.28.2020 18:00	04.28.2020 18:00	04.28.2020 18:00	04.28.2020 18:00		
	<i>Analyzed:</i>	04.29.2020 00:20	04.29.2020 00:42	04.29.2020 01:03	04.29.2020 01:24		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201		
Toluene		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201		
Ethylbenzene		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201		
m,p-Xylenes		<0.00398 0.00398	<0.00398 0.00398	<0.00398 0.00398	<0.00402 0.00402		
o-Xylene		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201		
Total Xylenes		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201		
Total BTEX		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201		
<b>Chloride by EPA 300</b>	<i>Extracted:</i>	04.28.2020 17:30	04.28.2020 17:30	04.28.2020 17:30	04.28.2020 17:30		
	<i>Analyzed:</i>	04.28.2020 19:19	04.28.2020 19:24	04.28.2020 19:30	04.28.2020 19:47		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		111 10.0	230 10.1	651 50.5	191 9.94		
<b>TPH by SW8015 Mod</b>	<i>Extracted:</i>	04.28.2020 17:10	04.28.2020 17:10	04.28.2020 17:10	04.28.2020 17:10		
	<i>Analyzed:</i>	04.28.2020 19:18	04.28.2020 19:38	04.28.2020 19:59	04.28.2020 20:19		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<50.1 50.1	<50.0 50.0	<49.8 49.8		
Diesel Range Organics (DRO)		<49.9 49.9	<50.1 50.1	<50.0 50.0	<49.8 49.8		
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<50.1 50.1	<50.0 50.0	<49.8 49.8		
Total GRO-DRO		<49.9 49.9	<50.1 50.1	<50.0 50.0	<49.8 49.8		
Total TPH		<49.9 49.9	<50.1 50.1	<50.0 50.0	<49.8 49.8		

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 - Midland - Tampa - Phoenix - Lubbock - San Antonio - El Paso - Atlanta - New Mexico

Jessica Kramer  
Project Manager



# Certificate of Analytical Results 660038

## LT Environmental, Inc., Arvada, CO Remuda Basin Battery #1

Sample Id: **SW17** Matrix: Soil Date Received: 04.28.2020 16:39  
 Lab Sample Id: 660038-001 Date Collected: 04.28.2020 09:11 Sample Depth: 2.0 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 04.28.2020 17:30 Basis: Wet Weight  
 Seq Number: 3124455

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	111	10.0	mg/kg	04.28.2020 19:19		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 04.28.2020 17:10 Basis: Wet Weight  
 Seq Number: 3124503

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	04.28.2020 19:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	04.28.2020 19:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	04.28.2020 19:18	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	04.28.2020 19:18	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	04.28.2020 19:18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	76	%	70-135	04.28.2020 19:18	
o-Terphenyl	84-15-1	80	%	70-135	04.28.2020 19:18	



# Certificate of Analytical Results 660038

## LT Environmental, Inc., Arvada, CO

### Remuda Basin Battery #1

Sample Id: **SW17** Matrix: Soil Date Received: 04.28.2020 16:39  
 Lab Sample Id: 660038-001 Date Collected: 04.28.2020 09:11 Sample Depth: 2.0 ft  
 Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 04.28.2020 18:00 Basis: Wet Weight  
 Seq Number: 3124449

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.29.2020 00:20	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.29.2020 00:20	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.29.2020 00:20	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.29.2020 00:20	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.29.2020 00:20	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.29.2020 00:20	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.29.2020 00:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	113	%	70-130	04.29.2020 00:20	
4-Bromofluorobenzene	460-00-4	107	%	70-130	04.29.2020 00:20	



# Certificate of Analytical Results 660038

## LT Environmental, Inc., Arvada, CO Remuda Basin Battery #1

Sample Id: **SW18** Matrix: Soil Date Received: 04.28.2020 16:39  
 Lab Sample Id: 660038-002 Date Collected: 04.28.2020 09:22 Sample Depth: 4.0 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 04.28.2020 17:30 Basis: Wet Weight  
 Seq Number: 3124455

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	230	10.1	mg/kg	04.28.2020 19:24		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 04.28.2020 17:10 Basis: Wet Weight  
 Seq Number: 3124503

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	04.28.2020 19:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	04.28.2020 19:38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	04.28.2020 19:38	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	04.28.2020 19:38	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	04.28.2020 19:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	75	%	70-135	04.28.2020 19:38	
o-Terphenyl	84-15-1	79	%	70-135	04.28.2020 19:38	



# Certificate of Analytical Results 660038

## LT Environmental, Inc., Arvada, CO

### Remuda Basin Battery #1

Sample Id: **SW18** Matrix: Soil Date Received: 04.28.2020 16:39  
 Lab Sample Id: 660038-002 Date Collected: 04.28.2020 09:22 Sample Depth: 4.0 ft  
 Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 04.28.2020 18:00 Basis: Wet Weight  
 Seq Number: 3124449

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.29.2020 00:42	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.29.2020 00:42	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.29.2020 00:42	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.29.2020 00:42	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.29.2020 00:42	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.29.2020 00:42	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.29.2020 00:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	04.29.2020 00:42	
1,4-Difluorobenzene	540-36-3	116	%	70-130	04.29.2020 00:42	



# Certificate of Analytical Results 660038

## LT Environmental, Inc., Arvada, CO Remuda Basin Battery #1

Sample Id: **SW05** Matrix: Soil Date Received: 04.28.2020 16:39  
 Lab Sample Id: 660038-003 Date Collected: 04.28.2020 13:52 Sample Depth: 12.0 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 04.28.2020 17:30 Basis: Wet Weight  
 Seq Number: 3124455

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	651	50.5	mg/kg	04.28.2020 19:30		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 04.28.2020 17:10 Basis: Wet Weight  
 Seq Number: 3124503

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	04.28.2020 19:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	04.28.2020 19:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	04.28.2020 19:59	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	04.28.2020 19:59	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	04.28.2020 19:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	04.28.2020 19:59	
o-Terphenyl	84-15-1	97	%	70-135	04.28.2020 19:59	



# Certificate of Analytical Results 660038

## LT Environmental, Inc., Arvada, CO

### Remuda Basin Battery #1

Sample Id: <b>SW05</b>	Matrix: Soil	Date Received: 04.28.2020 16:39
Lab Sample Id: 660038-003	Date Collected: 04.28.2020 13:52	Sample Depth: 12.0 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5035A
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 04.28.2020 18:00	Basis: Wet Weight
Seq Number: 3124449		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	04.29.2020 01:03	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	04.29.2020 01:03	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	04.29.2020 01:03	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	04.29.2020 01:03	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	04.29.2020 01:03	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	04.29.2020 01:03	U	1
Total BTEX		<0.00199	0.00199	mg/kg	04.29.2020 01:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	04.29.2020 01:03	
1,4-Difluorobenzene	540-36-3	114	%	70-130	04.29.2020 01:03	



# Certificate of Analytical Results 660038

## LT Environmental, Inc., Arvada, CO Remuda Basin Battery #1

Sample Id: **SW04** Matrix: Soil Date Received: 04.28.2020 16:39  
 Lab Sample Id: 660038-004 Date Collected: 04.28.2020 15:03 Sample Depth: 16.0 ft  
 Analytical Method: Chloride by EPA 300 Prep Method: E300P  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 04.28.2020 17:30 Basis: Wet Weight  
 Seq Number: 3124455

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	191	9.94	mg/kg	04.29.2020 09:40		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P  
 Tech: DTH % Moisture:  
 Analyst: DTH Date Prep: 04.28.2020 17:10 Basis: Wet Weight  
 Seq Number: 3124503

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	04.28.2020 20:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	04.28.2020 20:19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	04.28.2020 20:19	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	04.28.2020 20:19	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	04.28.2020 20:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	04.28.2020 20:19	
o-Terphenyl	84-15-1	107	%	70-135	04.28.2020 20:19	



# Certificate of Analytical Results 660038

## LT Environmental, Inc., Arvada, CO

### Remuda Basin Battery #1

Sample Id: **SW04** Matrix: Soil Date Received: 04.28.2020 16:39  
 Lab Sample Id: 660038-004 Date Collected: 04.28.2020 15:03 Sample Depth: 16.0 ft  
 Analytical Method: BTEX by EPA 8021B Prep Method: SW5035A  
 Tech: MAB % Moisture:  
 Analyst: MAB Date Prep: 04.28.2020 18:00 Basis: Wet Weight  
 Seq Number: 3124449

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	04.29.2020 01:24	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	04.29.2020 01:24	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	04.29.2020 01:24	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	04.29.2020 01:24	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	04.29.2020 01:24	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	04.29.2020 01:24	U	1
Total BTEX		<0.00201	0.00201	mg/kg	04.29.2020 01:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	04.29.2020 01:24	
1,4-Difluorobenzene	540-36-3	115	%	70-130	04.29.2020 01:24	





**LT Environmental, Inc.**  
Remuda Basin Battery #1

**Analytical Method: Chloride by EPA 300**

Seq Number: 3124455  
MB Sample Id: 7702278-1-BLK

Matrix: Solid  
LCS Sample Id: 7702278-1-BKS

Prep Method: E300P  
Date Prep: 04.28.2020  
LCSD Sample Id: 7702278-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	253	101	254	102	90-110	0	20	mg/kg	04.28.2020 18:46	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3124455  
Parent Sample Id: 660027-001

Matrix: Soil  
MS Sample Id: 660027-001 S

Prep Method: E300P  
Date Prep: 04.28.2020  
MSD Sample Id: 660027-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	48.4	200	257	104	258	105	90-110	0	20	mg/kg	04.28.2020 19:02	

**Analytical Method: Chloride by EPA 300**

Seq Number: 3124455  
Parent Sample Id: 660037-003

Matrix: Soil  
MS Sample Id: 660037-003 S

Prep Method: E300P  
Date Prep: 04.28.2020  
MSD Sample Id: 660037-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1130	200	1330	100	1330	100	90-110	0	20	mg/kg	04.28.2020 20:21	

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3124503  
MB Sample Id: 7702299-1-BLK

Matrix: Solid  
LCS Sample Id: 7702299-1-BKS

Prep Method: SW8015P  
Date Prep: 04.28.2020  
LCSD Sample Id: 7702299-1-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)	<50.0	1000	933	93	878	88	70-135	6	35	mg/kg	04.28.2020 12:38	
Diesel Range Organics (DRO)	<50.0	1000	1030	103	978	98	70-135	5	35	mg/kg	04.28.2020 12:38	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		130		127		70-135	%	04.28.2020 12:38
o-Terphenyl	130		132		130		70-135	%	04.28.2020 12:38

**Analytical Method: TPH by SW8015 Mod**

Seq Number: 3124503  
MB Sample Id: 7702299-1-BLK

Matrix: Solid

Prep Method: SW8015P  
Date Prep: 04.28.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	04.28.2020 12:17	

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.**  
Remuda Basin Battery #1

**Analytical Method:** TPH by SW8015 Mod

Seq Number: 3124503  
Parent Sample Id: 659919-021

Matrix: Soil  
MS Sample Id: 659919-021 S

Prep Method: SW8015P  
Date Prep: 04.28.2020  
MSD Sample Id: 659919-021 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)	<50.2	1000	956	96	1110	111	70-135	15	35	mg/kg	04.28.2020 16:33	
Diesel Range Organics (DRO)	<50.2	1000	1080	108	1160	116	70-135	7	35	mg/kg	04.28.2020 16:33	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	125		132		70-135	%	04.28.2020 16:33
o-Terphenyl	121		137	**	70-135	%	04.28.2020 16:33

**Analytical Method:** BTEX by EPA 8021B

Seq Number: 3124449  
MB Sample Id: 7702273-1-BLK

Matrix: Solid  
LCS Sample Id: 7702273-1-BKS

Prep Method: SW5035A  
Date Prep: 04.28.2020  
LCSD Sample Id: 7702273-1-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	0.100	0.110	110	0.117	117	70-130	6	35	mg/kg	04.28.2020 22:12	
Toluene	<0.00200	0.100	0.0984	98	0.106	106	70-130	7	35	mg/kg	04.28.2020 22:12	
Ethylbenzene	<0.00200	0.100	0.0929	93	0.0989	99	71-129	6	35	mg/kg	04.28.2020 22:12	
m,p-Xylenes	<0.00400	0.200	0.181	91	0.193	97	70-135	6	35	mg/kg	04.28.2020 22:12	
o-Xylene	<0.00200	0.100	0.0932	93	0.0996	100	71-133	7	35	mg/kg	04.28.2020 22:12	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	113		108		112		70-130	%	04.28.2020 22:12
4-Bromofluorobenzene	108		98		100		70-130	%	04.28.2020 22:12

**Analytical Method:** BTEX by EPA 8021B

Seq Number: 3124449  
Parent Sample Id: 660036-001

Matrix: Soil  
MS Sample Id: 660036-001 S

Prep Method: SW5035A  
Date Prep: 04.28.2020  
MSD Sample Id: 660036-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.126	125	0.120	120	70-130	5	35	mg/kg	04.28.2020 22:55	
Toluene	<0.00202	0.101	0.113	112	0.105	105	70-130	7	35	mg/kg	04.28.2020 22:55	
Ethylbenzene	<0.00202	0.101	0.106	105	0.0982	98	71-129	8	35	mg/kg	04.28.2020 22:55	
m,p-Xylenes	<0.00404	0.202	0.206	102	0.191	96	70-135	8	35	mg/kg	04.28.2020 22:55	
o-Xylene	<0.00202	0.101	0.105	104	0.0989	99	71-133	6	35	mg/kg	04.28.2020 22:55	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		108		70-130	%	04.28.2020 22:55
4-Bromofluorobenzene	92		96		70-130	%	04.28.2020 22:55

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



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334  
 Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296  
 Hobbs, NM (575) 392-7550 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000

**Chain of Custody**

Work Order No: 220038

Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different):	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	522 W. Mermod St.
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	jhlill@ltenv.com, dmoir@ltenv.com
Project Name:	Remuck Basin A-1	Turn Around	
Project Number:	012918058	Routine	<input type="checkbox"/>
P.O. Number:	2RP-2296	Rush:	SHR
Sampler's Name:	Jeremy Hill	Due Date:	4/21/20

<b>SAMPLE RECEIPT</b>	Temp Blank:	Yes/No	Wet Ice:	Yes/No
	Temperature (°C):	2.4	Thermometer ID	
	Received In tact:	Yes/No	Correction Factor:	
	Cooler Custody Seals:	Yes/No	Total Containers:	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	ANALYSIS REQUEST										Work Order Notes
SW17	S	4/28/20	0911	2.0'	1	X	X	X											
SW18	S	4/28/20	0922	4.0'	1	X	X	X											
SW65	S	4/28/20	1352	12.0'	1	X	X	X											
SW64	S	4/28/20	1503	16.0'	1	X	X	X											

**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 1631 / 245.1 / 7470 / 7471 : Hg

office: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. 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 Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to 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>[Signature]</i>	<i>[Signature]</i>	4/28/20/14:31			

# XENCO Laboratories

## Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 04.28.2020 04.39.00 PM

Work Order #: 660038

Acceptable Temperature Range: 0 - 6 degC  
Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	2.4	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	Yes	
#5 Custody Seals intact on sample bottles?	Yes	
#6 *Custody Seals Signed and dated?	Yes	
#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	Samples received in bulk containers.
#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#:

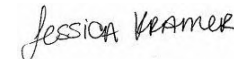
Checklist completed by:



Elizabeth McClellan

Date: 04.28.2020

Checklist reviewed by:



Jessica Kramer

Date: 04.29.2020



## APPENDIX B

# Laboratory Analytical Reports and Chain of Custody Documentation (2025)

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

---

August 06, 2025

KATHERINE KHAN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: REMUDA BASIN BATTERY 1

Enclosed are the results of analyses for samples received by the laboratory on 07/31/25 13:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/29/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: FS 01 16 (H254655-01)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.69	84.7	2.00	3.69	
Toluene*	<0.050	0.050	08/04/2025	ND	1.79	89.4	2.00	2.54	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.80	89.9	2.00	2.26	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.35	89.1	6.00	2.37	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.3 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	08/04/2025	ND	464	116	400	10.9	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/01/2025	ND	187	93.7	200	1.62	
DRO >C10-C28*	<10.0	10.0	08/01/2025	ND	172	86.2	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	08/01/2025	ND					

Surrogate: 1-Chlorooctane 89.9 % 44.4-145

Surrogate: 1-Chlorooctadecane 95.2 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/29/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: FS 02 16 (H254655-02)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.69	84.7	2.00	3.69	
Toluene*	<0.050	0.050	08/04/2025	ND	1.79	89.4	2.00	2.54	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.80	89.9	2.00	2.26	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.35	89.1	6.00	2.37	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.3 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	08/04/2025	ND	464	116	400	10.9	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/01/2025	ND	187	93.7	200	1.62	
DRO >C10-C28*	<10.0	10.0	08/01/2025	ND	172	86.2	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	08/01/2025	ND					

Surrogate: 1-Chlorooctane 93.9 % 44.4-145

Surrogate: 1-Chlorooctadecane 96.9 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/29/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: FS 03 16 (H254655-03)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/04/2025	ND	1.69	84.7	2.00	3.69		
Toluene*	<0.050	0.050	08/04/2025	ND	1.79	89.4	2.00	2.54		
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.80	89.9	2.00	2.26		
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.35	89.1	6.00	2.37		
Total BTEX	<0.300	0.300	08/04/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.7 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>1360</b>	16.0	08/04/2025	ND	464	116	400	10.9		

TPH 8015M		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/01/2025	ND	187	93.7	200	1.62		
DRO >C10-C28*	<10.0	10.0	08/01/2025	ND	172	86.2	200	1.78		
EXT DRO >C28-C36	<10.0	10.0	08/01/2025	ND						

Surrogate: 1-Chlorooctane 72.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 75.0 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/29/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: FS 04 16 (H254655-04)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/04/2025	ND	1.69	84.7	2.00	3.69		
Toluene*	<0.050	0.050	08/04/2025	ND	1.79	89.4	2.00	2.54		
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.80	89.9	2.00	2.26		
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.35	89.1	6.00	2.37		
Total BTEX	<0.300	0.300	08/04/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.9 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>1340</b>	16.0	08/04/2025	ND	464	116	400	10.9		

TPH 8015M		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/01/2025	ND	187	93.7	200	1.62		
DRO >C10-C28*	<10.0	10.0	08/01/2025	ND	172	86.2	200	1.78		
EXT DRO >C28-C36	<10.0	10.0	08/01/2025	ND						

Surrogate: 1-Chlorooctane 83.4 % 44.4-145

Surrogate: 1-Chlorooctadecane 86.0 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/29/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 01 0-4 (H254655-05)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.69	84.7	2.00	3.69	
Toluene*	<0.050	0.050	08/04/2025	ND	1.79	89.4	2.00	2.54	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.80	89.9	2.00	2.26	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.35	89.1	6.00	2.37	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.4 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	08/04/2025	ND	464	116	400	10.9	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/02/2025	ND	187	93.7	200	1.62	
DRO >C10-C28*	<10.0	10.0	08/02/2025	ND	172	86.2	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	08/02/2025	ND					

Surrogate: 1-Chlorooctane 78.6 % 44.4-145

Surrogate: 1-Chlorooctadecane 80.4 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/29/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 02 0-4 (H254655-06)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.69	84.7	2.00	3.69	
Toluene*	<0.050	0.050	08/04/2025	ND	1.79	89.4	2.00	2.54	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.80	89.9	2.00	2.26	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.35	89.1	6.00	2.37	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 95.2 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	08/04/2025	ND	464	116	400	10.9	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/02/2025	ND	187	93.7	200	1.62	
DRO >C10-C28*	<10.0	10.0	08/02/2025	ND	172	86.2	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	08/02/2025	ND					

Surrogate: 1-Chlorooctane 87.3 % 44.4-145

Surrogate: 1-Chlorooctadecane 88.9 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/29/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 03 0-4 (H254655-07)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.69	84.7	2.00	3.69	
Toluene*	<0.050	0.050	08/04/2025	ND	1.79	89.4	2.00	2.54	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.80	89.9	2.00	2.26	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.35	89.1	6.00	2.37	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.4 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>176</b>	16.0	08/04/2025	ND	464	116	400	10.9	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/02/2025	ND	187	93.7	200	1.62	
DRO >C10-C28*	<10.0	10.0	08/02/2025	ND	172	86.2	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	08/02/2025	ND					

Surrogate: 1-Chlorooctane 82.9 % 44.4-145

Surrogate: 1-Chlorooctadecane 84.6 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/29/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 04 0-4 (H254655-08)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.69	84.7	2.00	3.69	
Toluene*	<0.050	0.050	08/04/2025	ND	1.79	89.4	2.00	2.54	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.80	89.9	2.00	2.26	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.35	89.1	6.00	2.37	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.3 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/04/2025	ND	464	116	400	10.9	

TPH 8015M		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/02/2025	ND	187	93.7	200	1.62	
DRO >C10-C28*	<10.0	10.0	08/02/2025	ND	172	86.2	200	1.78	
EXT DRO >C28-C36	<10.0	10.0	08/02/2025	ND					

Surrogate: 1-Chlorooctane 89.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 92.2 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/29/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: FS 05 16 (H254655-09)**

BTEX 8021B		mg/kg		Analyzed By: JH				S-04	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.69	84.7	2.00	3.69	
Toluene*	<0.050	0.050	08/04/2025	ND	1.79	89.4	2.00	2.54	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.80	89.9	2.00	2.26	GC-NC
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.35	89.1	6.00	2.37	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 139 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>848</b>	16.0	08/04/2025	ND	464	116	400	10.9	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>GRO C6-C10*</b>	<b>29.1</b>	10.0	08/04/2025	ND	200	99.9	200	1.33	
<b>DRO &gt;C10-C28*</b>	<b>838</b>	10.0	08/04/2025	ND	180	89.8	200	0.797	QM-07
<b>EXT DRO &gt;C28-C36</b>	<b>177</b>	10.0	08/04/2025	ND					

Surrogate: 1-Chlorooctane 108 % 44.4-145

Surrogate: 1-Chlorooctadecane 123 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/29/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: FS 06 16 (H254655-10)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/04/2025	ND	1.69	84.7	2.00	3.69		
Toluene*	<0.050	0.050	08/04/2025	ND	1.79	89.4	2.00	2.54		
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.80	89.9	2.00	2.26		
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.35	89.1	6.00	2.37		
Total BTEX	<0.300	0.300	08/04/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.4 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	608	16.0	08/04/2025	ND	464	116	400	10.9		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	200	99.9	200	1.33		
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	180	89.8	200	0.797		
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND						

Surrogate: 1-Chlorooctane 112 % 44.4-145

Surrogate: 1-Chlorooctadecane 111 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/29/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 05 0-4 (H254655-11)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.69	84.7	2.00	3.69	
Toluene*	<0.050	0.050	08/04/2025	ND	1.79	89.4	2.00	2.54	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.80	89.9	2.00	2.26	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.35	89.1	6.00	2.37	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.0 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>432</b>	16.0	08/04/2025	ND	464	116	400	10.9	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	200	99.9	200	1.33	
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	180	89.8	200	0.797	
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND					

Surrogate: 1-Chlorooctane 96.8 % 44.4-145

Surrogate: 1-Chlorooctadecane 94.2 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/29/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 06 0-4 (H254655-12)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.69	84.7	2.00	3.69	
Toluene*	<0.050	0.050	08/04/2025	ND	1.79	89.4	2.00	2.54	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.80	89.9	2.00	2.26	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.35	89.1	6.00	2.37	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.9 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	512	16.0	08/04/2025	ND	464	116	400	10.9	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	200	99.9	200	1.33	
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	180	89.8	200	0.797	
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND					

Surrogate: 1-Chlorooctane 99.2 % 44.4-145

Surrogate: 1-Chlorooctadecane 95.9 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/29/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 07 0-4 (H254655-13)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.69	84.7	2.00	3.69	
Toluene*	<0.050	0.050	08/04/2025	ND	1.79	89.4	2.00	2.54	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.80	89.9	2.00	2.26	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.35	89.1	6.00	2.37	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.3 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>624</b>	16.0	08/04/2025	ND	464	116	400	10.9	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	200	99.9	200	1.33	
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	180	89.8	200	0.797	
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND					

Surrogate: 1-Chlorooctane 82.7 % 44.4-145

Surrogate: 1-Chlorooctadecane 80.7 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/29/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 08 0-4 (H254655-14)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.69	84.7	2.00	3.69	
Toluene*	<0.050	0.050	08/04/2025	ND	1.79	89.4	2.00	2.54	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.80	89.9	2.00	2.26	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.35	89.1	6.00	2.37	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.4 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	08/04/2025	ND	464	116	400	10.9	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	200	99.9	200	1.33	
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	180	89.8	200	0.797	
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND					

Surrogate: 1-Chlorooctane 110 % 44.4-145

Surrogate: 1-Chlorooctadecane 106 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/29/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: FS 07 16 (H254655-15)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.69	84.7	2.00	3.69	
Toluene*	<0.050	0.050	08/04/2025	ND	1.79	89.4	2.00	2.54	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.80	89.9	2.00	2.26	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.35	89.1	6.00	2.37	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.5 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	08/04/2025	ND	464	116	400	10.9	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	200	99.9	200	1.33	
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	180	89.8	200	0.797	
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND					

Surrogate: 1-Chlorooctane 109 % 44.4-145

Surrogate: 1-Chlorooctadecane 109 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/29/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: FS 08 16 (H254655-16)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/04/2025	ND	1.69	84.7	2.00	3.69		
Toluene*	<0.050	0.050	08/04/2025	ND	1.79	89.4	2.00	2.54		
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.80	89.9	2.00	2.26		
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.35	89.1	6.00	2.37		
Total BTEX	<0.300	0.300	08/04/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 95.3 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	688	16.0	08/04/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	200	99.9	200	1.33		
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	180	89.8	200	0.797		
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND						

Surrogate: 1-Chlorooctane 111 % 44.4-145

Surrogate: 1-Chlorooctadecane 108 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/29/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: FS 09 16 (H254655-17)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/04/2025	ND	1.69	84.7	2.00	3.69		
Toluene*	<0.050	0.050	08/04/2025	ND	1.79	89.4	2.00	2.54		
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.80	89.9	2.00	2.26		
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.35	89.1	6.00	2.37		
Total BTEX	<0.300	0.300	08/04/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.3 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	624	16.0	08/04/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	200	99.9	200	1.33		
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	180	89.8	200	0.797		
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND						

Surrogate: 1-Chlorooctane 118 % 44.4-145

Surrogate: 1-Chlorooctadecane 115 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/29/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: FS 10 16 (H254655-18)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.69	84.7	2.00	3.69	
Toluene*	<0.050	0.050	08/04/2025	ND	1.79	89.4	2.00	2.54	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.80	89.9	2.00	2.26	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.35	89.1	6.00	2.37	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.0 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5600	16.0	08/04/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	200	99.9	200	1.33	
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	180	89.8	200	0.797	
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND					

Surrogate: 1-Chlorooctane 118 % 44.4-145

Surrogate: 1-Chlorooctadecane 116 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/30/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 09 4-16 (H254655-19)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	08/04/2025	ND	1.69	84.7	2.00	3.69		
Toluene*	<0.050	0.050	08/04/2025	ND	1.79	89.4	2.00	2.54		
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.80	89.9	2.00	2.26		
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.35	89.1	6.00	2.37		
Total BTEX	<0.300	0.300	08/04/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 94.1 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	08/04/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	200	99.9	200	1.33		
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	180	89.8	200	0.797		
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND						

Surrogate: 1-Chlorooctane 105 % 44.4-145

Surrogate: 1-Chlorooctadecane 104 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/30/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 10 4-16 (H254655-20)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.69	84.7	2.00	3.69	
Toluene*	<0.050	0.050	08/04/2025	ND	1.79	89.4	2.00	2.54	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.80	89.9	2.00	2.26	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.35	89.1	6.00	2.37	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.0 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>288</b>	16.0	08/04/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	200	99.9	200	1.33	
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	180	89.8	200	0.797	
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND					

Surrogate: 1-Chlorooctane 100 % 44.4-145

Surrogate: 1-Chlorooctadecane 97.5 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/30/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 11 4-16 (H254655-21)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.79	89.5	2.00	6.38	
Toluene*	<0.050	0.050	08/04/2025	ND	1.85	92.6	2.00	3.39	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.86	92.9	2.00	1.69	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.60	93.3	6.00	0.933	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>112</b>	16.0	08/04/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	200	99.9	200	1.33	
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	180	89.8	200	0.797	
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND					

Surrogate: 1-Chlorooctane 98.0 % 44.4-145

Surrogate: 1-Chlorooctadecane 93.0 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/30/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 12 4-16 (H254655-22)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.79	89.5	2.00	6.38	
Toluene*	<0.050	0.050	08/04/2025	ND	1.85	92.6	2.00	3.39	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.86	92.9	2.00	1.69	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.60	93.3	6.00	0.933	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	08/04/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	200	99.9	200	1.33	
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	180	89.8	200	0.797	
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND					

Surrogate: 1-Chlorooctane 97.2 % 44.4-145

Surrogate: 1-Chlorooctadecane 93.0 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/30/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 13 4-16 (H254655-23)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.79	89.5	2.00	6.38	
Toluene*	<0.050	0.050	08/04/2025	ND	1.85	92.6	2.00	3.39	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.86	92.9	2.00	1.69	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.60	93.3	6.00	0.933	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>224</b>	16.0	08/04/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	200	99.9	200	1.33	
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	180	89.8	200	0.797	
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND					

Surrogate: 1-Chlorooctane 101 % 44.4-145

Surrogate: 1-Chlorooctadecane 95.6 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/30/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 14 4-16 (H254655-24)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.79	89.5	2.00	6.38	
Toluene*	<0.050	0.050	08/04/2025	ND	1.85	92.6	2.00	3.39	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.86	92.9	2.00	1.69	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.60	93.3	6.00	0.933	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	08/04/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	200	99.9	200	1.33	
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	180	89.8	200	0.797	
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND					

Surrogate: 1-Chlorooctane 83.9 % 44.4-145

Surrogate: 1-Chlorooctadecane 79.1 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/30/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 15 4-16 (H254655-25)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.79	89.5	2.00	6.38	
Toluene*	<0.050	0.050	08/04/2025	ND	1.85	92.6	2.00	3.39	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.86	92.9	2.00	1.69	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.60	93.3	6.00	0.933	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	08/04/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	200	99.9	200	1.33	
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	180	89.8	200	0.797	
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND					

Surrogate: 1-Chlorooctane 97.8 % 44.4-145

Surrogate: 1-Chlorooctadecane 93.4 % 40.6-153

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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/30/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 16 4-16 (H254655-26)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.79	89.5	2.00	6.38	
Toluene*	<0.050	0.050	08/04/2025	ND	1.85	92.6	2.00	3.39	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.86	92.9	2.00	1.69	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.60	93.3	6.00	0.933	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	08/04/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	200	99.9	200	1.33	
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	180	89.8	200	0.797	
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND					

Surrogate: 1-Chlorooctane 97.8 % 44.4-145

Surrogate: 1-Chlorooctadecane 93.6 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/30/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 17 4-16 (H254655-27)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.79	89.5	2.00	6.38	
Toluene*	<0.050	0.050	08/04/2025	ND	1.85	92.6	2.00	3.39	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.86	92.9	2.00	1.69	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.60	93.3	6.00	0.933	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/04/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	200	99.9	200	1.33	
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	180	89.8	200	0.797	
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND					

Surrogate: 1-Chlorooctane 106 % 44.4-145

Surrogate: 1-Chlorooctadecane 101 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/30/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 18 4-16 (H254655-28)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.79	89.5	2.00	6.38	
Toluene*	<0.050	0.050	08/04/2025	ND	1.85	92.6	2.00	3.39	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.86	92.9	2.00	1.69	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.60	93.3	6.00	0.933	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	464	16.0	08/04/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	200	99.9	200	1.33	
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	180	89.8	200	0.797	
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND					

Surrogate: 1-Chlorooctane 124 % 44.4-145

Surrogate: 1-Chlorooctadecane 120 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/30/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 19 4-16 (H254655-29)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.79	89.5	2.00	6.38	
Toluene*	<0.050	0.050	08/04/2025	ND	1.85	92.6	2.00	3.39	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.86	92.9	2.00	1.69	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.60	93.3	6.00	0.933	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	736	16.0	08/04/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	186	92.9	200	5.93	
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	204	102	200	7.38	
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND					

Surrogate: 1-Chlorooctane 89.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 88.4 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/30/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 20 4-16 (H254655-30)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.79	89.5	2.00	6.38	
Toluene*	<0.050	0.050	08/04/2025	ND	1.85	92.6	2.00	3.39	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.86	92.9	2.00	1.69	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.60	93.3	6.00	0.933	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	9680	16.0	08/04/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	186	92.9	200	5.93	
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	204	102	200	7.38	
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND					

Surrogate: 1-Chlorooctane 90.6 % 44.4-145

Surrogate: 1-Chlorooctadecane 89.2 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/30/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 21 4-16 (H254655-31)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.79	89.5	2.00	6.38	
Toluene*	<0.050	0.050	08/04/2025	ND	1.85	92.6	2.00	3.39	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.86	92.9	2.00	1.69	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.60	93.3	6.00	0.933	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>8320</b>	16.0	08/04/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	186	92.9	200	5.93	
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	204	102	200	7.38	
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND					

Surrogate: 1-Chlorooctane 89.6 % 44.4-145

Surrogate: 1-Chlorooctadecane 88.1 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/30/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 22 4-16 (H254655-32)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.79	89.5	2.00	6.38	
Toluene*	<0.050	0.050	08/04/2025	ND	1.85	92.6	2.00	3.39	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.86	92.9	2.00	1.69	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.60	93.3	6.00	0.933	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1900	16.0	08/04/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	186	92.9	200	5.93	
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	204	102	200	7.38	
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND					

Surrogate: 1-Chlorooctane 84.8 % 44.4-145

Surrogate: 1-Chlorooctadecane 83.1 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/30/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 23 4-16 (H254655-33)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.79	89.5	2.00	6.38	
Toluene*	<0.050	0.050	08/04/2025	ND	1.85	92.6	2.00	3.39	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.86	92.9	2.00	1.69	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.60	93.3	6.00	0.933	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1710	16.0	08/04/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	186	92.9	200	5.93	
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	204	102	200	7.38	
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND					

Surrogate: 1-Chlorooctane 79.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 78.0 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/30/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 24 4-16 (H254655-34)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.79	89.5	2.00	6.38	
Toluene*	<0.050	0.050	08/04/2025	ND	1.85	92.6	2.00	3.39	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.86	92.9	2.00	1.69	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.60	93.3	6.00	0.933	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>96.0</b>	16.0	08/04/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	186	92.9	200	5.93	
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	204	102	200	7.38	
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND					

Surrogate: 1-Chlorooctane 82.3 % 44.4-145

Surrogate: 1-Chlorooctadecane 78.0 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/30/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 25 4-16 (H254655-35)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.79	89.5	2.00	6.38	
Toluene*	<0.050	0.050	08/04/2025	ND	1.85	92.6	2.00	3.39	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.86	92.9	2.00	1.69	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.60	93.3	6.00	0.933	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 112 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	08/04/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	186	92.9	200	5.93	
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	204	102	200	7.38	
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND					

Surrogate: 1-Chlorooctane 84.1 % 44.4-145

Surrogate: 1-Chlorooctadecane 79.9 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	07/31/2025	Sampling Date:	07/30/2025
Reported:	08/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO		

**Sample ID: SW 26 4-16 (H254655-36)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/04/2025	ND	1.79	89.5	2.00	6.38	
Toluene*	<0.050	0.050	08/04/2025	ND	1.85	92.6	2.00	3.39	
Ethylbenzene*	<0.050	0.050	08/04/2025	ND	1.86	92.9	2.00	1.69	
Total Xylenes*	<0.150	0.150	08/04/2025	ND	5.60	93.3	6.00	0.933	
Total BTEX	<0.300	0.300	08/04/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 111 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	08/04/2025	ND	480	120	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/04/2025	ND	186	92.9	200	5.93	
DRO >C10-C28*	<10.0	10.0	08/04/2025	ND	204	102	200	7.38	
EXT DRO >C28-C36	<10.0	10.0	08/04/2025	ND					

Surrogate: 1-Chlorooctane 74.4 % 44.4-145

Surrogate: 1-Chlorooctadecane 74.3 % 40.6-153

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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
GC-NC 8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are reported as ND.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
\*\* Samples not received at proper temperature of 6°C or below.
\*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

1 of 4

<b>Company Name:</b> Ensolum, LLC <b>Project Manager:</b> Katherine Kahn <b>Address:</b> 3122 National Parks Hwy <b>City:</b> Carlsbad <b>State:</b> NM <b>Zip:</b> 88220 <b>Phone #:</b> 337 257-8307 <b>Fax #:</b> <b>Project #:</b> 03C1558004 <b>Project Owner:</b> XTO <b>Project Name:</b> Remuda Basin Battery 1 <b>Project Location:</b> <b>Sampler Name:</b> Connor Whitman		<b>BILL TO</b> <b>P.O. #:</b> <b>Company:</b> XTO Energy Inc. <b>Attn:</b> Colton Brown <b>Address:</b> 3104 E. Green St. <b>City:</b> Carlsbad <b>State:</b> NM <b>Zip:</b> 88220 <b>Phone #:</b> <b>Fax #:</b>		<b>ANALYSIS REQUEST</b>	
---	--	--	--	-------------------------	--

Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	BTEX	TPH	CHLORIDE
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:					
1	FS01	16	C	2								7-27-25	925			
2	FS02	16											910			
3	FS03	16											935			
4	FS04	16											940			
5	SW01	0-4											1030			
6	SW02	16											1035			
7	SW03	16											1040			
8	SW04	16											1050			
9	FS05	16											1230			
10	FS06	16											1235			

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**Relinquished By:** [Signature] **Date:** 7-31-25 **Received By:** [Signature] **Date:** 7-31-25

**Time:** 1340 **Observed Temp. °C:** 1.6 **Corrected Temp. °C:** 1.9

**Sample Condition:** Cool  Intact  Bacteria (only)  Sample Condition  Cool  Intact  Bacteria (only)  Sample Condition

**Checked By:** [Signature] **Thermometer ID #:** #13 **Standard:**  **Thermometer Error:** -0.3°C **Corrected Temp. °C:** 1.3°C

**Remarks:** Cost Center: 1081541001 Incident ID: NHMP1413240586 (ZRP-2296)

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



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**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

2 of 4

<b>Company Name:</b> Ensolum, LLC	<b>P.O. #:</b>	<b>BILL TO</b>	<b>ANALYSIS REQUEST</b>
<b>Project Manager:</b> Katherine Kahn	<b>Company:</b> XTO Energy Inc.		
<b>Address:</b> 3122 National Parks Hwy	<b>Attn:</b> Colton Brown		
<b>City:</b> Carlsbad	<b>Address:</b> 3104 E. Green St.		
<b>Phone #:</b> 337 257-8307	<b>City:</b> Carlsbad		
<b>Fax #:</b>	<b>State:</b> NM <b>Zip:</b> 88220		
<b>Project #:</b> 03C1558004	<b>Project Owner:</b> XTO		
<b>Project Name:</b> Remuda Basin Battery 1	<b>Phone #:</b>		
<b>Project Location:</b>	<b>Fax #:</b>		
<b>Sampler Name:</b> Connor Whitman			

Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	BTEX	TPH	CHLORIDE
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
H254655	SW05	0-4	C	1							7-29-25	1325			
	SW06											1330			
	SW07											1335			
	SW08											1340			
	FS07	16										1420			
	FS08											1425			
	FS09											1430			
	FS10											1435			

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**Relinquished By:** *[Signature]*

**Date:** 7-31-25

**Received By:** *[Signature]*

**Date:** 7-31-25

**Time:** 1:40

**Observed Temp. °C:** 14

**Corrected Temp. °C:** 1.9

**Sample Condition:** Cool Intact  Yes  No

**Checked By:** *[Signature]*

**Turnaround Time:** Standard  Rush

**Thermometer ID:** #13 *[Signature]*

**Correction Factor:** -0.1°C

**Bacteria (only) Sample Condition:** Cool Intact  Yes  No

**Incident ID:** NHMP1413240586 (2RP-2296)

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

3 of 4

**Company Name:** Ensolum, LLC  
**Project Manager:** Katherine Kahn  
**Address:** 3122 National Parks Hwy  
**City:** Carlsbad  
**Phone #:** 337 257-8307  
**Project #:** 03C1558004  
**Project Name:** Remuda Basin Battery 1  
**Project Location:**  
**Sampler Name:** Connor Whitman

**State:** NM  
**Zip:** 88220  
**City:** Carlsbad  
**Address:** 3104 E. Green St.  
**State:** NM  
**Zip:** 88220

**P.O. #:**  
**Company:** XTO Energy Inc.  
**Attn:** Colton Brown  
**Address:** 3104 E. Green St.  
**State:** NM  
**Zip:** 88220

**FOR LAB USE ONLY**

**Sample I.D.:** H284655

**Sample Depth (feet):** 4-16

**(G)RAB OR (C)OMP:** C

**# CONTAINERS:** 1

**MATRIX:** GROUNDWATER, WASTEWATER, SOIL, OIL, SLUDGE, OTHER:

**PRESERV:** ACID/BASE, ICE / COOL, OTHER: ✓

**DATE:** 7-30-25

**TIME:** 9:00

**BTEX:** ✓

**TPH:** ✓

**CHLORIDE:** ✓

Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP	# CONTAINERS	MATRIX	PRESERV	SAMPLING	DATE	TIME	BTEX	TPH	CHLORIDE
19	SW09	4-16	C	1	GROUNDWATER	ACID/BASE	✓	7-30-25	9:00	✓	✓	✓
20	SW10				GROUNDWATER				9:05	✓	✓	✓
21	SW11				GROUNDWATER				9:10	✓	✓	✓
22	SW12				GROUNDWATER				9:15	✓	✓	✓
23	SW13				GROUNDWATER				9:20	✓	✓	✓
24	SW14				GROUNDWATER				9:25	✓	✓	✓
25	SW15				GROUNDWATER				9:55	✓	✓	✓
26	SW16				GROUNDWATER				10:00	✓	✓	✓
27	SW17				GROUNDWATER				10:05	✓	✓	✓
28	SW18				GROUNDWATER				10:30	✓	✓	✓

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**Relinquished By:** [Signature]

**Date:** 7-31-25

**Received By:** [Signature]

**Date:** 7-31-25

**Time:** 1:40

**Observed Temp. °C:** 1.6

**Corrected Temp. °C:** 1.9

**Sample Condition:** Cool Intact  Yes  No

**Checked By:** [Signature]

**Turnaround Time:** Standard  Rush

**Thermometer ID:** #13 #140

**Correction Factor:** 0.5

**Bacteria (only) Sample Condition:** Cool Intact  Yes  No

**Corrected Temp. °C:**

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**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

**BILL TO**

**ANALYSIS REQUEST**

4 of 4

Company Name: Ensolum, LLC  
 Project Manager: Katherine Kahn  
 Address: 3122 National Parks Hwy  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: 337 257-8307 Fax #: 337 257-8307  
 Project #: 03C1558004 Project Owner: XTO  
 Project Name: Remuda Basin Battery 1  
 Project Location:  
 Sampler Name: Connor Whitman  
 P.O. #: Company: XTO Energy Inc.  
 Attn: Colton Brown  
 Address: 3104 E. Green St.  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: Fax #:

Lab I.D.	Sample I.D.	Sample Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	BTEX	TPH	CHLORIDE
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:					
H2S4655	SW19	4-16	C	1								7-30-25	1035			
	SW20	4-16	C	1									1040			
	SW21												1045			
	SW22												1050			
	SW23												1055			
	SW24												1215			
	SW25												1220			
	SW26												1225			

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Relinquished By: *[Signature]*  
 Date: 7-31-25 Received By: *[Signature]*  
 Date: 7-31-25  
 Time: 1:34 PM  
 Turnaround Time: Standard  Rush   
 Thermometer ID #13  
 Correction Factor: -0.5  
 Bacteria (only) Sample Condition Cool Intact  Observed Temp. °C  No  Yes

Delivered By: (Circle One) Observed Temp. °C 1.6  
 Corrected Temp. °C 1.9  
 Sample Condition Cool Intact  Yes  No   
 CHECKED BY: *[Signature]*  
 REMARKS: Cost Center: 1081541001 Incident ID: NHMP1413240586 (ZRP-2296)  
 Verbal Result:  Yes  No  Add'l Phone #:  
 All Results are emailed. Please provide Email address:  
 KK@ResolutionConsultantsLLC.com, TMorrissey@ensolum.com, kthomason@ensolum.com  
 GFCM 48805000 AFE: EW/2020.02879.EXP.01  
 Turnaround Time: Standard  Rush   
 Thermometer ID #13  
 Correction Factor: -0.5  
 Bacteria (only) Sample Condition Cool Intact  Observed Temp. °C  No  Yes



Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ashley Holmes  
Ensolum

601 N. Marienfeld St.  
Suite 400

Midland, Texas 79701

Generated 8/21/2025 10:18:18 AM

## JOB DESCRIPTION

Remuda Basin Batt. #1  
03C1558004

## JOB NUMBER

890-8688-1

Eurofins Carlsbad  
1089 N Canal St.  
Carlsbad NM 88220

See page two for job notes and contact information.



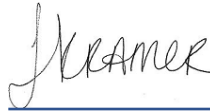
# Eurofins Carlsbad

## Job Notes

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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  
8/21/2025 10:18:18 AM

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

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Client: Ensolum  
Project/Site: Remuda Basin Batt. #1

Laboratory Job ID: 890-8688-1  
SDG: 03C1558004

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## Definitions/Glossary

Client: Ensolum  
Project/Site: Remuda Basin Batt. #1

Job ID: 890-8688-1  
SDG: 03C1558004

## Qualifiers

## GC VOA

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

## GC Semi VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

## HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	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: Remuda Basin Batt. #1

Job ID: 890-8688-1

**Job ID: 890-8688-1**

**Eurofins Carlsbad**

### Job Narrative 890-8688-1

The analytical test results presented in this report meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page, unless otherwise noted. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable. Regulated compliance samples (e.g. SDWA, NPDES) must comply with associated agency requirements/permits.

- Matrix-specific batch QC (e.g., MS, MSD, SD) may not be reported when insufficient sample volume is available or when site-specific QC samples are not submitted. In such cases, a Laboratory Control Sample Duplicate (LCSD) may be analyzed to provide precision data for the batch.
- For samples analyzed using surrogate and/or isotope dilution analytes, any recoveries falling outside of established acceptance criteria are re-prepared and/or re-analyzed to confirm results, unless the deviation is due to sample dilution or otherwise explained in the case narrative.

#### Receipt

The sample was received on 8/19/2025 4:09 PM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 6.4°C.

#### GC VOA

Method 8021B: The surrogate recovery for the blank associated with preparation batch 880-117096 and analytical batch 880-117095 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.

#### Diesel Range Organics

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: (LCS 880-117024/2-A). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 8015MOD\_NM: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-117024 and analytical batch 880-117136 recovered outside control limits for the following analytes: Gasoline Range Organics (GRO)-C6-C10.

Method 8015MOD\_NM: Surrogate recovery for the following sample was outside control limits: SW19 (890-8688-1). 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

Method 300\_ORGFM\_28D - Soluble: The Chloride matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-117097 and analytical batch 880-117113 were outside control limits. 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.

The associated samples are: SW19 (890-8688-1), (890-8688-A-1-B MS) and (890-8688-A-1-C MSD).

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

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### Client Sample Results

Client: Ensolum  
 Project/Site: Remuda Basin Batt. #1

Job ID: 890-8688-1  
 SDG: 03C1558004

**Client Sample ID: SW19**

**Lab Sample ID: 890-8688-1**

Date Collected: 08/19/25 14:40

Matrix: Solid

Date Received: 08/19/25 16:09

Sample Depth: 4 - 18

**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		08/20/25 08:28	08/20/25 14:29	1
Toluene	<0.00199	U	0.00199	mg/Kg		08/20/25 08:28	08/20/25 14:29	1
Ethylbenzene	<0.00199	U	0.00199	mg/Kg		08/20/25 08:28	08/20/25 14:29	1
m-Xylene & p-Xylene	<0.00398	U	0.00398	mg/Kg		08/20/25 08:28	08/20/25 14:29	1
o-Xylene	<0.00199	U	0.00199	mg/Kg		08/20/25 08:28	08/20/25 14:29	1
Xylenes, Total	<0.00398	U	0.00398	mg/Kg		08/20/25 08:28	08/20/25 14:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	130		70 - 130	08/20/25 08:28	08/20/25 14:29	1
1,4-Difluorobenzene (Surr)	116		70 - 130	08/20/25 08:28	08/20/25 14:29	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			08/20/25 14:29	1

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

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	72.5		50.0	mg/Kg			08/20/25 16:27	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 *1	50.0	mg/Kg		08/19/25 09:06	08/20/25 16:27	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/19/25 09:06	08/20/25 16:27	1
Oil Range Organics (Over C28-C36)	72.5		50.0	mg/Kg		08/19/25 09:06	08/20/25 16:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	124		70 - 130	08/19/25 09:06	08/20/25 16:27	1
o-Terphenyl	141	S1+	70 - 130	08/19/25 09:06	08/20/25 16:27	1

**Method: EPA 300.0 - Anions, Ion Chromatography - Soluble**

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	551	F1	10.0	mg/Kg			08/20/25 15:04	1

### Surrogate Summary

Client: Ensolum  
 Project/Site: Remuda Basin Batt. #1

Job ID: 890-8688-1  
 SDG: 03C1558004

**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)
890-8684-A-1-B MS	Matrix Spike	115	101
890-8684-A-1-C MSD	Matrix Spike Duplicate	112	103
890-8688-1	SW19	130	116
LCS 880-117096/1-A	Lab Control Sample	97	101
LCSD 880-117096/2-A	Lab Control Sample Dup	104	111
MB 880-117096/5-A	Method Blank	190 S1+	111

**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)
890-8638-A-1-C MS	Matrix Spike	114	116
890-8638-A-1-D MSD	Matrix Spike Duplicate	114	117
890-8688-1	SW19	124	141 S1+
LCS 880-117024/2-A	Lab Control Sample	126	131 S1+
LCSD 880-117024/3-A	Lab Control Sample Dup	105	109
MB 880-117024/1-A	Method Blank	101	114

**Surrogate Legend**

1CO = 1-Chlorooctane  
 OTPH = o-Terphenyl

### QC Sample Results

Client: Ensolum  
 Project/Site: Remuda Basin Batt. #1

Job ID: 890-8688-1  
 SDG: 03C1558004

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

Lab Sample ID: MB 880-117096/5-A  
 Matrix: Solid  
 Analysis Batch: 117095

Client Sample ID: Method Blank  
 Prep Type: Total/NA  
 Prep Batch: 117096

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/20/25 08:28	08/20/25 11:37	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/20/25 08:28	08/20/25 11:37	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/20/25 08:28	08/20/25 11:37	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/20/25 08:28	08/20/25 11:37	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/20/25 08:28	08/20/25 11:37	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/20/25 08:28	08/20/25 11:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	190	S1+	70 - 130	08/20/25 08:28	08/20/25 11:37	1
1,4-Difluorobenzene (Surr)	111		70 - 130	08/20/25 08:28	08/20/25 11:37	1

Lab Sample ID: LCS 880-117096/1-A  
 Matrix: Solid  
 Analysis Batch: 117095

Client Sample ID: Lab Control Sample  
 Prep Type: Total/NA  
 Prep Batch: 117096

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09992		mg/Kg		100	70 - 130
Toluene	0.100	0.09069		mg/Kg		91	70 - 130
Ethylbenzene	0.100	0.08078		mg/Kg		81	70 - 130
m-Xylene & p-Xylene	0.200	0.1779		mg/Kg		89	70 - 130
o-Xylene	0.100	0.09661		mg/Kg		97	70 - 130

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

Lab Sample ID: LCSD 880-117096/2-A  
 Matrix: Solid  
 Analysis Batch: 117095

Client Sample ID: Lab Control Sample Dup  
 Prep Type: Total/NA  
 Prep Batch: 117096

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.1142		mg/Kg		114	70 - 130	13	35
Toluene	0.100	0.08757		mg/Kg		88	70 - 130	4	35
Ethylbenzene	0.100	0.07802		mg/Kg		78	70 - 130	3	35
m-Xylene & p-Xylene	0.200	0.1649		mg/Kg		82	70 - 130	8	35
o-Xylene	0.100	0.1127		mg/Kg		113	70 - 130	15	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	104		70 - 130
1,4-Difluorobenzene (Surr)	111		70 - 130

Lab Sample ID: 890-8684-A-1-B MS  
 Matrix: Solid  
 Analysis Batch: 117095

Client Sample ID: Matrix Spike  
 Prep Type: Total/NA  
 Prep Batch: 117096

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U	0.100	0.09847		mg/Kg		98	70 - 130
Toluene	<0.00200	U	0.100	0.07934		mg/Kg		79	70 - 130

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### QC Sample Results

Client: Ensolum  
Project/Site: Remuda Basin Batt. #1

Job ID: 890-8688-1  
SDG: 03C1558004

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

Lab Sample ID: 890-8684-A-1-B MS  
Matrix: Solid  
Analysis Batch: 117095

Client Sample ID: Matrix Spike  
Prep Type: Total/NA  
Prep Batch: 117096

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00200	U	0.100	0.07901		mg/Kg		79	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1841		mg/Kg		92	70 - 130
o-Xylene	<0.00200	U	0.100	0.1048		mg/Kg		105	70 - 130

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene (Surr)	115		70 - 130
1,4-Difluorobenzene (Surr)	101		70 - 130

Lab Sample ID: 890-8684-A-1-C MSD  
Matrix: Solid  
Analysis Batch: 117095

Client Sample ID: Matrix Spike Duplicate  
Prep Type: Total/NA  
Prep Batch: 117096

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.100	0.1035		mg/Kg		104	70 - 130	5	35
Toluene	<0.00200	U	0.100	0.08198		mg/Kg		82	70 - 130	3	35
Ethylbenzene	<0.00200	U	0.100	0.07472		mg/Kg		75	70 - 130	6	35
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1704		mg/Kg		85	70 - 130	8	35
o-Xylene	<0.00200	U	0.100	0.1063		mg/Kg		106	70 - 130	1	35

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	112		70 - 130
1,4-Difluorobenzene (Surr)	103		70 - 130

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

Lab Sample ID: MB 880-117024/1-A  
Matrix: Solid  
Analysis Batch: 117136

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 117024

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		08/19/25 09:06	08/20/25 06:58	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0	mg/Kg		08/19/25 09:06	08/20/25 06:58	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0	mg/Kg		08/19/25 09:06	08/20/25 06:58	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130	08/19/25 09:06	08/20/25 06:58	1
o-Terphenyl	114		70 - 130	08/19/25 09:06	08/20/25 06:58	1

Lab Sample ID: LCS 880-117024/2-A  
Matrix: Solid  
Analysis Batch: 117136

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 117024

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	1247		mg/Kg		125	70 - 130
Diesel Range Organics (Over C10-C28)	1000	1115		mg/Kg		112	70 - 130

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### QC Sample Results

Client: Ensolum  
 Project/Site: Remuda Basin Batt. #1

Job ID: 890-8688-1  
 SDG: 03C1558004

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

**Lab Sample ID: LCS 880-117024/2-A**  
**Matrix: Solid**  
**Analysis Batch: 117136**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 117024**

Surrogate	LCS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	126		70 - 130
o-Terphenyl	131	S1+	70 - 130

**Lab Sample ID: LCSD 880-117024/3-A**  
**Matrix: Solid**  
**Analysis Batch: 117136**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 117024**

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec		RPD	Limit
		Result	Qualifier				Limits	RPD		
Gasoline Range Organics (GRO)-C6-C10	1000	1010	*1	mg/Kg		101	70 - 130	21	20	
Diesel Range Organics (Over C10-C28)	1000	908.2		mg/Kg		91	70 - 130	20	20	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
1-Chlorooctane	105		70 - 130
o-Terphenyl	109		70 - 130

**Lab Sample ID: 890-8638-A-1-C MS**  
**Matrix: Solid**  
**Analysis Batch: 117136**

**Client Sample ID: Matrix Spike**  
**Prep Type: Total/NA**  
**Prep Batch: 117024**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	999	997.9		mg/Kg		100	70 - 130			
Diesel Range Organics (Over C10-C28)	<49.9	U	999	922.8		mg/Kg		92	70 - 130			

Surrogate	MS		Limits
	%Recovery	Qualifier	
1-Chlorooctane	114		70 - 130
o-Terphenyl	116		70 - 130

**Lab Sample ID: 890-8638-A-1-D MSD**  
**Matrix: Solid**  
**Analysis Batch: 117136**

**Client Sample ID: Matrix Spike Duplicate**  
**Prep Type: Total/NA**  
**Prep Batch: 117024**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec		RPD	Limit
				Result	Qualifier				Limits	RPD		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *1	999	1001		mg/Kg		100	70 - 130	0	20	
Diesel Range Organics (Over C10-C28)	<49.9	U	999	915.9		mg/Kg		92	70 - 130	1	20	

Surrogate	MSD		Limits
	%Recovery	Qualifier	
1-Chlorooctane	114		70 - 130
o-Terphenyl	117		70 - 130

### QC Sample Results

Client: Ensolum  
 Project/Site: Remuda Basin Batt. #1

Job ID: 890-8688-1  
 SDG: 03C1558004

#### Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-117097/1-A  
 Matrix: Solid  
 Analysis Batch: 117113

Client Sample ID: Method Blank  
 Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<10.0	U	10.0	mg/Kg			08/20/25 12:40	1

Lab Sample ID: LCS 880-117097/2-A  
 Matrix: Solid  
 Analysis Batch: 117113

Client Sample ID: Lab Control Sample  
 Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	247.7		mg/Kg		99	90 - 110

Lab Sample ID: LCSD 880-117097/3-A  
 Matrix: Solid  
 Analysis Batch: 117113

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	236.6		mg/Kg		95	90 - 110	5	20

Lab Sample ID: 890-8688-1 MS  
 Matrix: Solid  
 Analysis Batch: 117113

Client Sample ID: SW19  
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	551	F1	251	764.1	F1	mg/Kg		85	90 - 110

Lab Sample ID: 890-8688-1 MSD  
 Matrix: Solid  
 Analysis Batch: 117113

Client Sample ID: SW19  
 Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	551	F1	251	768.9	F1	mg/Kg		87	90 - 110	1	20

## QC Association Summary

Client: Ensolum  
Project/Site: Remuda Basin Batt. #1

Job ID: 890-8688-1  
SDG: 03C1558004

## GC VOA

## Analysis Batch: 117095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-8688-1	SW19	Total/NA	Solid	8021B	117096
MB 880-117096/5-A	Method Blank	Total/NA	Solid	8021B	117096
LCS 880-117096/1-A	Lab Control Sample	Total/NA	Solid	8021B	117096
LCSD 880-117096/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	117096
890-8684-A-1-B MS	Matrix Spike	Total/NA	Solid	8021B	117096
890-8684-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	117096

## Prep Batch: 117096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-8688-1	SW19	Total/NA	Solid	5035	
MB 880-117096/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-117096/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-117096/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-8684-A-1-B MS	Matrix Spike	Total/NA	Solid	5035	
890-8684-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

## Analysis Batch: 117188

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-8688-1	SW19	Total/NA	Solid	Total BTEX	

## GC Semi VOA

## Prep Batch: 117024

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-8688-1	SW19	Total/NA	Solid	8015NM Prep	
MB 880-117024/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-117024/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-117024/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-8638-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-8638-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

## Analysis Batch: 117136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-8688-1	SW19	Total/NA	Solid	8015B NM	117024
MB 880-117024/1-A	Method Blank	Total/NA	Solid	8015B NM	117024
LCS 880-117024/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	117024
LCSD 880-117024/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	117024
890-8638-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	117024
890-8638-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	117024

## Analysis Batch: 117194

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-8688-1	SW19	Total/NA	Solid	8015 NM	

## HPLC/IC

## Leach Batch: 117097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-8688-1	SW19	Soluble	Solid	DI Leach	
MB 880-117097/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-117097/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-117097/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

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### QC Association Summary

Client: Ensolum  
Project/Site: Remuda Basin Batt. #1

Job ID: 890-8688-1  
SDG: 03C1558004

#### HPLC/IC (Continued)

##### Leach Batch: 117097 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-8688-1 MS	SW19	Soluble	Solid	DI Leach	
890-8688-1 MSD	SW19	Soluble	Solid	DI Leach	

##### Analysis Batch: 117113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-8688-1	SW19	Soluble	Solid	300.0	117097
MB 880-117097/1-A	Method Blank	Soluble	Solid	300.0	117097
LCS 880-117097/2-A	Lab Control Sample	Soluble	Solid	300.0	117097
LCSD 880-117097/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	117097
890-8688-1 MS	SW19	Soluble	Solid	300.0	117097
890-8688-1 MSD	SW19	Soluble	Solid	300.0	117097

- 1
- 2
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- 12
- 13
- 14

### Lab Chronicle

Client: Ensolum  
 Project/Site: Remuda Basin Batt. #1

Job ID: 890-8688-1  
 SDG: 03C1558004

**Client Sample ID: SW19**

**Lab Sample ID: 890-8688-1**

Date Collected: 08/19/25 14:40

Matrix: Solid

Date Received: 08/19/25 16:09

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	117096	08/20/25 08:28	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	117095	08/20/25 14:29	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			117188	08/20/25 14:29	SA	EET MID
Total/NA	Analysis	8015 NM		1			117194	08/20/25 16:27	SA	EET MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	117024	08/19/25 09:06	EL	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	117136	08/20/25 16:27	TKC	EET MID
Soluble	Leach	DI Leach			4.98 g	50 mL	117097	08/20/25 08:46	SA	EET MID
Soluble	Analysis	300.0		1			117113	08/20/25 15:04	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: Remuda Basin Batt. #1

Job ID: 890-8688-1  
SDG: 03C1558004

#### 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	06-30-26

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

- 1
- 2
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- 12
- 13
- 14

### Method Summary

Client: Ensolum  
Project/Site: Remuda Basin Batt. #1

Job ID: 890-8688-1  
SDG: 03C1558004

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



### Sample Summary

Client: Ensolum  
Project/Site: Remuda Basin Batt. #1

Job ID: 890-8688-1  
SDG: 03C1558004

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-8688-1	SW19	Solid	08/19/25 14:40	08/19/25 16:09	4 - 18

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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) 794-1286  
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199

### Chain of Custody

Work Order No: \_\_\_\_\_

www.xenco.com Page \_\_\_\_\_ of \_\_\_\_\_

Project Manager:	KATHERINE KAHN	Bill to: (if different)	LOREN REARD
Company Name:	Ensolium LLC	Company Name:	XTO ENERGY, INC
Address:	3122 NATIONAL PARKS HWY	Address:	3104 E GREENE ST
City, State ZIP:	CARLSBAD, NM 88220	City, State ZIP:	CARLSBAD, NM 88220
Phone:	303-319-9604	Email:	KK@Ensolium.com

Project Name:	REMUDA BASIN Bar #1	Turn Around	Pres. Code
Project Number:	03015596004	<input type="checkbox"/> Routine <input checked="" type="checkbox"/> Rush	
Project Location:	32.258625 105.936333	Due Date:	4/8/22
Sampler's Name:	CHAD WELCH	TAT starts the day received by the lab, if received by 4:30pm	
PO #:		Wellce:	Yes No



Project Name:	REMUDA BASIN Bar #1	Turn Around	Pres. Code	ANALYSIS REQUEST	Preservative Codes
Project Number:	03015596004	<input type="checkbox"/> Routine <input checked="" type="checkbox"/> Rush			None: NO DI Water: H <sub>2</sub> O
Project Location:	32.258625 105.936333	Due Date:	4/8/22		Cool: Cool MeOH: Me
Sampler's Name:	CHAD WELCH	TAT starts the day received by the lab, if received by 4:30pm			HCL: HC HNO <sub>3</sub> : HN
PO #:		Wellce:	Yes No		H <sub>2</sub> SO <sub>4</sub> : H <sub>2</sub> NaOH: Na
Sampler Received In tact:	Yes No	Thermometer ID:	11111111		H <sub>3</sub> PO <sub>4</sub> : HP
Cooler Custody Seals:	Yes No	Correction Factor:	-0.2		NaHSO <sub>4</sub> : MABIS
Sample Custody Seals:	Yes No	Temperature Reading:	6.6		Na <sub>2</sub> O <sub>2</sub> : NaSO <sub>3</sub>
Total Containers:	Yes No	Corrected Temperature:	6.4		Zn Acetate+NaOH: Zn
					NaOH+Ascorbic Acid: SAPC

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont	Parameters	Sample Comments
SM19	S	8/19/25	1940	4-18 C	I	1	BTEX TPH CHLORIDES	INCIDENT ID: NHMP1913240586 (CRP-2296) ATE NUMBER: EN 2020-02879, EXP. 01 POST CENTER: 1681541061 GFCM: 48605000-SPILLS

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO<sub>2</sub> Na Sr Tl 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 Tl 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
CFW	CDL	4:09 8/19/22			

### Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-8688-1

SDG Number: 03C1558004

**Login Number: 8688**

**List Number: 1**

**Creator: Lee, Randall**

**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.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

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### Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-8688-1

SDG Number: 03C1558004

**Login Number: 8688**

**List Number: 2**

**Creator: Lee, Randall**

**List Source: Eurofins Midland**

**List Creation: 08/20/25 08:39 AM**

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

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

---

August 25, 2025

KATHERINE KHAN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: REMUDA BASIN BATTERY 1

Enclosed are the results of analyses for samples received by the laboratory on 08/21/25 13:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	08/21/2025	Sampling Date:	08/20/2025
Reported:	08/25/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: SW 20 4-18 (H255221-01)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/22/2025	ND	1.64	81.9	2.00	2.43	
Toluene*	<0.050	0.050	08/22/2025	ND	1.81	90.3	2.00	4.21	
Ethylbenzene*	<0.050	0.050	08/22/2025	ND	1.84	91.8	2.00	5.51	
Total Xylenes*	<0.150	0.150	08/22/2025	ND	5.67	94.6	6.00	5.83	
Total BTEX	<0.300	0.300	08/22/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	672	16.0	08/22/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/22/2025	ND	200	100	200	6.74	
DRO >C10-C28*	<10.0	10.0	08/22/2025	ND	194	97.0	200	5.91	
EXT DRO >C28-C36	<10.0	10.0	08/22/2025	ND					

Surrogate: 1-Chlorooctane 80.7 % 44.4-145

Surrogate: 1-Chlorooctadecane 75.1 % 40.6-153

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	08/21/2025	Sampling Date:	08/20/2025
Reported:	08/25/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: SW 21 4-18 (H255221-02)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	08/22/2025	ND	1.64	81.9	2.00	2.43	
Toluene*	<0.050	0.050	08/22/2025	ND	1.81	90.3	2.00	4.21	
Ethylbenzene*	<0.050	0.050	08/22/2025	ND	1.84	91.8	2.00	5.51	
Total Xylenes*	<0.150	0.150	08/22/2025	ND	5.67	94.6	6.00	5.83	
Total BTEX	<0.300	0.300	08/22/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>688</b>	16.0	08/22/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	08/22/2025	ND	200	100	200	6.74	
DRO >C10-C28*	<10.0	10.0	08/22/2025	ND	194	97.0	200	5.91	
EXT DRO >C28-C36	<10.0	10.0	08/22/2025	ND					

Surrogate: 1-Chlorooctane 82.6 % 44.4-145

Surrogate: 1-Chlorooctadecane 76.2 % 40.6-153

Cardinal Laboratories

\*=Accredited Analyte

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of the services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

Celey D. Keene, Lab Director/Quality Manager



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**Notes and Definitions**

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: Ensolium, LLC  
 Project Manager: Katherine Kahn  
 Address: 3122 National Parks Hwy  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: 303.319.9604 Fax #:   
 Project #: 03C 1558 004 Project Owner:   
 Project Name: REMUDA BASIN BATTERY #1  
 Project Location: 32.288625, -103.936353  
 Sampler Name: UPS WEIGHT  
 P.O. #:   
 Company: XTO Energy, Inc  
 Attn: Dale Woodall  
 Address: 3104 E. Green St  
 City: Carlsbad State: NM Zip: 88220  
 Phone #:   
 Fax #:   
 CHECKED BY: (Initials)   
 Sample Condition:  Intact  Cool  Yes  No

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.	DATE	TIME	Chlorides	TPH	BTEX
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :						
HA55821	SM20	4-18	C	1			✓					8/20/25	1359	✓	✓	✓
	SM21	4-18	C	1			✓					8/20/25	1403	✓	✓	✓

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Relinquished By: *AKW*  
 Date: 8/20/25  
 Time: 1340  
 Received By: *Stocking*  
 Date:   
 Time:   
 Verbal Result:  Yes  No Add'l Phone #:  
 All Results are emailed. Please provide Email address:  
 KKE@cardinallabsnm.com

Delivered By: (Circle One)  
 Sampler - UPS - Bus - Other:  
 Observed Temp. °C: 1.3  
 Corrected Temp. °C: 1.0  
 Sample Condition:  Intact  Cool  Yes  No  
 CHECKED BY: *SK*  
 Turnaround Time: 48 hr  
 Standard  Rush   
 Bacteria (only)  Intact  Yes  No  
 Sample Condition:  Observed Temp. °C:   
 Corrected Temp. °C:   
 REMARKS: *Customer requested changes to CDC.*  
 Incident: *HA55821*  
 Cost Center: *103554001*  
 Project #: *03C 1558 004*  
 EXP. 01  
 Turnaround Time: *48 hr*  
 Standard  Rush   
 Bacteria (only)  Intact  Yes  No  
 Sample Condition:  Observed Temp. °C:   
 Corrected Temp. °C:   
 \* *8/22/25*



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

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September 11, 2025

KATHERINE KHAN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: REMUDA BASIN BATTERY 1

Enclosed are the results of analyses for samples received by the laboratory on 09/09/25 13:40.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/09/2025	Sampling Date:	09/08/2025
Reported:	09/11/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: SW 27 0-4 (H255635-01)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/10/2025	ND	1.89	94.7	2.00	0.601	
Toluene*	<0.050	0.050	09/10/2025	ND	1.94	96.9	2.00	0.304	
Ethylbenzene*	<0.050	0.050	09/10/2025	ND	1.97	98.3	2.00	0.197	
Total Xylenes*	<0.150	0.150	09/10/2025	ND	6.16	103	6.00	1.18	
Total BTEX	<0.300	0.300	09/10/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 117 % 71.5-134

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	09/10/2025	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/09/2025	ND	173	86.4	200	2.29	
DRO >C10-C28*	<10.0	10.0	09/09/2025	ND	174	86.9	200	4.14	
EXT DRO >C28-C36	<10.0	10.0	09/09/2025	ND					

Surrogate: 1-Chlorooctane 102 % 44.4-145

Surrogate: 1-Chlorooctadecane 99.7 % 40.6-153

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/09/2025  
 Reported: 09/11/2025  
 Project Name: REMUDA BASIN BATTERY 1  
 Project Number: 03C1558004  
 Project Location: XTO 32.288623,-103.936333

Sampling Date: 09/08/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 20A 4-16 (H255635-02)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/10/2025	ND	1.89	94.7	2.00	0.601	
Toluene*	<0.050	0.050	09/10/2025	ND	1.94	96.9	2.00	0.304	
Ethylbenzene*	<0.050	0.050	09/10/2025	ND	1.97	98.3	2.00	0.197	
Total Xylenes*	<0.150	0.150	09/10/2025	ND	6.16	103	6.00	1.18	
Total BTEX	<0.300	0.300	09/10/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 122 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<b>608</b>	16.0	09/10/2025	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/09/2025	ND	173	86.4	200	2.29	
DRO >C10-C28*	<10.0	10.0	09/09/2025	ND	174	86.9	200	4.14	
EXT DRO >C28-C36	<10.0	10.0	09/09/2025	ND					

Surrogate: 1-Chlorooctane 93.3 % 44.4-145

Surrogate: 1-Chlorooctadecane 92.0 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/09/2025  
 Reported: 09/11/2025  
 Project Name: REMUDA BASIN BATTERY 1  
 Project Number: 03C1558004  
 Project Location: XTO 32.288623,-103.936333

Sampling Date: 09/08/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 21A 4-16 (H255635-03)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/10/2025	ND	1.89	94.7	2.00	0.601	
Toluene*	<0.050	0.050	09/10/2025	ND	1.94	96.9	2.00	0.304	
Ethylbenzene*	<0.050	0.050	09/10/2025	ND	1.97	98.3	2.00	0.197	
Total Xylenes*	<0.150	0.150	09/10/2025	ND	6.16	103	6.00	1.18	
Total BTEX	<0.300	0.300	09/10/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 120 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	464	16.0	09/10/2025	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/09/2025	ND	173	86.4	200	2.29	
DRO >C10-C28*	<10.0	10.0	09/09/2025	ND	174	86.9	200	4.14	
EXT DRO >C28-C36	<10.0	10.0	09/09/2025	ND					

Surrogate: 1-Chlorooctane 97.5 % 44.4-145

Surrogate: 1-Chlorooctadecane 95.5 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/09/2025	Sampling Date:	09/08/2025
Reported:	09/11/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: SW 22A 4-16 (H255635-04)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/10/2025	ND	1.89	94.7	2.00	0.601	
Toluene*	<0.050	0.050	09/10/2025	ND	1.94	96.9	2.00	0.304	
Ethylbenzene*	<0.050	0.050	09/10/2025	ND	1.97	98.3	2.00	0.197	
Total Xylenes*	<0.150	0.150	09/10/2025	ND	6.16	103	6.00	1.18	
Total BTEX	<0.300	0.300	09/10/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 123 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	496	16.0	09/10/2025	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/09/2025	ND	173	86.4	200	2.29	
DRO >C10-C28*	<10.0	10.0	09/09/2025	ND	174	86.9	200	4.14	
EXT DRO >C28-C36	<10.0	10.0	09/09/2025	ND					

Surrogate: 1-Chlorooctane 109 % 44.4-145

Surrogate: 1-Chlorooctadecane 108 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/09/2025	Sampling Date:	09/08/2025
Reported:	09/11/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: SW 23A 4-16 (H255635-05)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/10/2025	ND	1.89	94.7	2.00	0.601	
Toluene*	<0.050	0.050	09/10/2025	ND	1.94	96.9	2.00	0.304	
Ethylbenzene*	<0.050	0.050	09/10/2025	ND	1.97	98.3	2.00	0.197	
Total Xylenes*	<0.150	0.150	09/10/2025	ND	6.16	103	6.00	1.18	
Total BTEX	<0.300	0.300	09/10/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 119 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	5640	16.0	09/10/2025	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/09/2025	ND	173	86.4	200	2.29	
DRO >C10-C28*	<10.0	10.0	09/09/2025	ND	174	86.9	200	4.14	
EXT DRO >C28-C36	<10.0	10.0	09/09/2025	ND					

Surrogate: 1-Chlorooctane 100 % 44.4-145

Surrogate: 1-Chlorooctadecane 98.8 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/09/2025  
 Reported: 09/11/2025  
 Project Name: REMUDA BASIN BATTERY 1  
 Project Number: 03C1558004  
 Project Location: XTO 32.288623,-103.936333

Sampling Date: 09/08/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 28 4-16 (H255635-06)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/10/2025	ND	1.89	94.7	2.00	0.601	
Toluene*	<0.050	0.050	09/10/2025	ND	1.94	96.9	2.00	0.304	
Ethylbenzene*	<0.050	0.050	09/10/2025	ND	1.97	98.3	2.00	0.197	
Total Xylenes*	<0.150	0.150	09/10/2025	ND	6.16	103	6.00	1.18	
Total BTEX	<0.300	0.300	09/10/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>1650</b>	16.0	09/10/2025	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/09/2025	ND	173	86.4	200	2.29	
<b>DRO &gt;C10-C28*</b>	<b>91.7</b>	10.0	09/09/2025	ND	174	86.9	200	4.14	
<b>EXT DRO &gt;C28-C36</b>	<b>18.4</b>	10.0	09/09/2025	ND					

Surrogate: 1-Chlorooctane 98.1 % 44.4-145

Surrogate: 1-Chlorooctadecane 99.6 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/09/2025  
 Reported: 09/11/2025  
 Project Name: REMUDA BASIN BATTERY 1  
 Project Number: 03C1558004  
 Project Location: XTO 32.288623,-103.936333

Sampling Date: 09/08/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 29 4-16 (H255635-07)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/10/2025	ND	1.89	94.7	2.00	0.601		
Toluene*	<0.050	0.050	09/10/2025	ND	1.94	96.9	2.00	0.304		
Ethylbenzene*	<0.050	0.050	09/10/2025	ND	1.97	98.3	2.00	0.197		
Total Xylenes*	<0.150	0.150	09/10/2025	ND	6.16	103	6.00	1.18		
Total BTEX	<0.300	0.300	09/10/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 110 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>2600</b>	16.0	09/10/2025	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/09/2025	ND	168	84.1	200	1.14		
<b>DRO &gt;C10-C28*</b>	<b>22.9</b>	10.0	09/09/2025	ND	165	82.7	200	1.77		
EXT DRO >C28-C36	<10.0	10.0	09/09/2025	ND						

Surrogate: 1-Chlorooctane 85.3 % 44.4-145

Surrogate: 1-Chlorooctadecane 81.9 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/09/2025  
 Reported: 09/11/2025  
 Project Name: REMUDA BASIN BATTERY 1  
 Project Number: 03C1558004  
 Project Location: XTO 32.288623,-103.936333

Sampling Date: 09/08/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 30 16-19.5 (H255635-08)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/10/2025	ND	1.89	94.7	2.00	0.601	
Toluene*	<0.050	0.050	09/10/2025	ND	1.94	96.9	2.00	0.304	
Ethylbenzene*	<0.050	0.050	09/10/2025	ND	1.97	98.3	2.00	0.197	
Total Xylenes*	<0.150	0.150	09/10/2025	ND	6.16	103	6.00	1.18	
Total BTEX	<0.300	0.300	09/10/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 109 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>7680</b>	16.0	09/10/2025	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/09/2025	ND	168	84.1	200	1.14	
<b>DRO &gt;C10-C28*</b>	<b>19.5</b>	10.0	09/09/2025	ND	165	82.7	200	1.77	
EXT DRO >C28-C36	<10.0	10.0	09/09/2025	ND					

Surrogate: 1-Chlorooctane 76.3 % 44.4-145

Surrogate: 1-Chlorooctadecane 78.7 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/09/2025  
 Reported: 09/11/2025  
 Project Name: REMUDA BASIN BATTERY 1  
 Project Number: 03C1558004  
 Project Location: XTO 32.288623,-103.936333

Sampling Date: 09/08/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 31 16-19.5 (H255635-09)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/10/2025	ND	1.89	94.7	2.00	0.601	
Toluene*	<0.050	0.050	09/10/2025	ND	1.94	96.9	2.00	0.304	
Ethylbenzene*	<0.050	0.050	09/10/2025	ND	1.97	98.3	2.00	0.197	
Total Xylenes*	<0.150	0.150	09/10/2025	ND	6.16	103	6.00	1.18	
Total BTEX	<0.300	0.300	09/10/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 117 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1760	16.0	09/10/2025	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/09/2025	ND	168	84.1	200	1.14	
DRO >C10-C28*	<10.0	10.0	09/09/2025	ND	165	82.7	200	1.77	
EXT DRO >C28-C36	<10.0	10.0	09/09/2025	ND					

Surrogate: 1-Chlorooctane 77.9 % 44.4-145

Surrogate: 1-Chlorooctadecane 76.8 % 40.6-153

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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/09/2025  
 Reported: 09/11/2025  
 Project Name: REMUDA BASIN BATTERY 1  
 Project Number: 03C1558004  
 Project Location: XTO 32.288623,-103.936333

Sampling Date: 09/08/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 32 16-19.5 (H255635-10)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/10/2025	ND	1.89	94.7	2.00	0.601	
Toluene*	<0.050	0.050	09/10/2025	ND	1.94	96.9	2.00	0.304	
Ethylbenzene*	<0.050	0.050	09/10/2025	ND	1.97	98.3	2.00	0.197	
Total Xylenes*	<0.150	0.150	09/10/2025	ND	6.16	103	6.00	1.18	
Total BTEX	<0.300	0.300	09/10/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1860	16.0	09/10/2025	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/09/2025	ND	168	84.1	200	1.14	
DRO >C10-C28*	<10.0	10.0	09/09/2025	ND	165	82.7	200	1.77	
EXT DRO >C28-C36	<10.0	10.0	09/09/2025	ND					

Surrogate: 1-Chlorooctane 79.0 % 44.4-145

Surrogate: 1-Chlorooctadecane 74.9 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/09/2025  
 Reported: 09/11/2025  
 Project Name: REMUDA BASIN BATTERY 1  
 Project Number: 03C1558004  
 Project Location: XTO 32.288623,-103.936333

Sampling Date: 09/08/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: SW 33 16-19.5 (H255635-11)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/10/2025	ND	1.89	94.7	2.00	0.601		
Toluene*	<0.050	0.050	09/10/2025	ND	1.94	96.9	2.00	0.304		
Ethylbenzene*	<0.050	0.050	09/10/2025	ND	1.97	98.3	2.00	0.197		
Total Xylenes*	<0.150	0.150	09/10/2025	ND	6.16	103	6.00	1.18		
Total BTEX	<0.300	0.300	09/10/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1020	16.0	09/10/2025	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/09/2025	ND	168	84.1	200	1.14		
DRO >C10-C28*	<10.0	10.0	09/09/2025	ND	165	82.7	200	1.77		
EXT DRO >C28-C36	<10.0	10.0	09/09/2025	ND						

Surrogate: 1-Chlorooctane 77.3 % 44.4-145

Surrogate: 1-Chlorooctadecane 73.2 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/09/2025  
 Reported: 09/11/2025  
 Project Name: REMUDA BASIN BATTERY 1  
 Project Number: 03C1558004  
 Project Location: XTO 32.288623,-103.936333

Sampling Date: 09/08/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 01 19.5 (H255635-12)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/10/2025	ND	1.89	94.7	2.00	0.601	
Toluene*	<0.050	0.050	09/10/2025	ND	1.94	96.9	2.00	0.304	
Ethylbenzene*	<0.050	0.050	09/10/2025	ND	1.97	98.3	2.00	0.197	
Total Xylenes*	<0.150	0.150	09/10/2025	ND	6.16	103	6.00	1.18	
Total BTEX	<0.300	0.300	09/10/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 117 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1120	16.0	09/10/2025	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/09/2025	ND	168	84.1	200	1.14	
DRO >C10-C28*	<10.0	10.0	09/09/2025	ND	165	82.7	200	1.77	
EXT DRO >C28-C36	<10.0	10.0	09/09/2025	ND					

Surrogate: 1-Chlorooctane 76.9 % 44.4-145

Surrogate: 1-Chlorooctadecane 74.3 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/09/2025  
 Reported: 09/11/2025  
 Project Name: REMUDA BASIN BATTERY 1  
 Project Number: 03C1558004  
 Project Location: XTO 32.288623,-103.936333

Sampling Date: 09/08/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 02 19.5 (H255635-13)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/10/2025	ND	1.89	94.7	2.00	0.601		
Toluene*	<0.050	0.050	09/10/2025	ND	1.94	96.9	2.00	0.304		
Ethylbenzene*	<0.050	0.050	09/10/2025	ND	1.97	98.3	2.00	0.197		
Total Xylenes*	<0.150	0.150	09/10/2025	ND	6.16	103	6.00	1.18		
Total BTEX	<0.300	0.300	09/10/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 119 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2280	16.0	09/10/2025	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/09/2025	ND	168	84.1	200	1.14		
DRO >C10-C28*	<10.0	10.0	09/09/2025	ND	165	82.7	200	1.77		
EXT DRO >C28-C36	<10.0	10.0	09/09/2025	ND						

Surrogate: 1-Chlorooctane 80.2 % 44.4-145

Surrogate: 1-Chlorooctadecane 76.3 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/09/2025  
 Reported: 09/11/2025  
 Project Name: REMUDA BASIN BATTERY 1  
 Project Number: 03C1558004  
 Project Location: XTO 32.288623,-103.936333

Sampling Date: 09/08/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 03 19.5 (H255635-14)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/10/2025	ND	1.89	94.7	2.00	0.601	
Toluene*	<0.050	0.050	09/10/2025	ND	1.94	96.9	2.00	0.304	
Ethylbenzene*	<0.050	0.050	09/10/2025	ND	1.97	98.3	2.00	0.197	
Total Xylenes*	<0.150	0.150	09/10/2025	ND	6.16	103	6.00	1.18	
Total BTEX	<0.300	0.300	09/10/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 120 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1260	16.0	09/10/2025	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/09/2025	ND	168	84.1	200	1.14	
DRO >C10-C28*	<10.0	10.0	09/09/2025	ND	165	82.7	200	1.77	
EXT DRO >C28-C36	<10.0	10.0	09/09/2025	ND					

Surrogate: 1-Chlorooctane 103 % 44.4-145

Surrogate: 1-Chlorooctadecane 102 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/09/2025  
 Reported: 09/11/2025  
 Project Name: REMUDA BASIN BATTERY 1  
 Project Number: 03C1558004  
 Project Location: XTO 32.288623,-103.936333

Sampling Date: 09/08/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 04 19.5 (H255635-15)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/10/2025	ND	1.81	90.5	2.00	2.36	
Toluene*	<0.050	0.050	09/10/2025	ND	2.11	106	2.00	4.51	
Ethylbenzene*	<0.050	0.050	09/10/2025	ND	2.26	113	2.00	7.17	QM-07
Total Xylenes*	<0.150	0.150	09/10/2025	ND	7.04	117	6.00	7.20	QM-07
Total BTEX	<0.300	0.300	09/10/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 120 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>1310</b>	16.0	09/10/2025	ND	416	104	400	3.92	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/09/2025	ND	168	84.1	200	1.14	
DRO >C10-C28*	<10.0	10.0	09/09/2025	ND	165	82.7	200	1.77	
EXT DRO >C28-C36	<10.0	10.0	09/09/2025	ND					

Surrogate: 1-Chlorooctane 99.3 % 44.4-145

Surrogate: 1-Chlorooctadecane 98.4 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/09/2025	Sampling Date:	09/08/2025
Reported:	09/11/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: FS 05 19.5 (H255635-16)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/10/2025	ND	1.81	90.5	2.00	2.36	
Toluene*	<0.050	0.050	09/10/2025	ND	2.11	106	2.00	4.51	
Ethylbenzene*	<0.050	0.050	09/10/2025	ND	2.26	113	2.00	7.17	
Total Xylenes*	<0.150	0.150	09/10/2025	ND	7.04	117	6.00	7.20	
Total BTEX	<0.300	0.300	09/10/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 116 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1230	16.0	09/10/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/09/2025	ND	168	84.1	200	1.14	
DRO >C10-C28*	<10.0	10.0	09/09/2025	ND	165	82.7	200	1.77	
EXT DRO >C28-C36	<10.0	10.0	09/09/2025	ND					

Surrogate: 1-Chlorooctane 103 % 44.4-145

Surrogate: 1-Chlorooctadecane 103 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/09/2025	Sampling Date:	09/08/2025
Reported:	09/11/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: FS 06 19.5 (H255635-17)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/10/2025	ND	1.81	90.5	2.00	2.36	
Toluene*	<0.050	0.050	09/10/2025	ND	2.11	106	2.00	4.51	
Ethylbenzene*	<0.050	0.050	09/10/2025	ND	2.26	113	2.00	7.17	
Total Xylenes*	<0.150	0.150	09/10/2025	ND	7.04	117	6.00	7.20	
Total BTEX	<0.300	0.300	09/10/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 119 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1180	16.0	09/10/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/10/2025	ND	168	84.1	200	1.14	
DRO >C10-C28*	<10.0	10.0	09/10/2025	ND	165	82.7	200	1.77	
EXT DRO >C28-C36	<10.0	10.0	09/10/2025	ND					

Surrogate: 1-Chlorooctane 100 % 44.4-145

Surrogate: 1-Chlorooctadecane 101 % 40.6-153

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/09/2025  
 Reported: 09/11/2025  
 Project Name: REMUDA BASIN BATTERY 1  
 Project Number: 03C1558004  
 Project Location: XTO 32.288623,-103.936333

Sampling Date: 09/08/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 07 19.5 (H255635-18)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/10/2025	ND	1.81	90.5	2.00	2.36		
Toluene*	<0.050	0.050	09/10/2025	ND	2.11	106	2.00	4.51		
Ethylbenzene*	<0.050	0.050	09/10/2025	ND	2.26	113	2.00	7.17		
Total Xylenes*	<0.150	0.150	09/10/2025	ND	7.04	117	6.00	7.20		
Total BTEX	<0.300	0.300	09/10/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 119 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1600	16.0	09/10/2025	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/10/2025	ND	168	84.1	200	1.14		
DRO >C10-C28*	<10.0	10.0	09/10/2025	ND	165	82.7	200	1.77		
EXT DRO >C28-C36	<10.0	10.0	09/10/2025	ND						

Surrogate: 1-Chlorooctane 99.1 % 44.4-145

Surrogate: 1-Chlorooctadecane 99.0 % 40.6-153

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/09/2025  
 Reported: 09/11/2025  
 Project Name: REMUDA BASIN BATTERY 1  
 Project Number: 03C1558004  
 Project Location: XTO 32.288623,-103.936333

Sampling Date: 09/08/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 08 19.5 (H255635-19)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/10/2025	ND	1.81	90.5	2.00	2.36	
Toluene*	<0.050	0.050	09/10/2025	ND	2.11	106	2.00	4.51	
Ethylbenzene*	<0.050	0.050	09/10/2025	ND	2.26	113	2.00	7.17	
Total Xylenes*	<0.150	0.150	09/10/2025	ND	7.04	117	6.00	7.20	
Total BTEX	<0.300	0.300	09/10/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 121 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	3760	16.0	09/10/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/10/2025	ND	168	84.1	200	1.14	
DRO >C10-C28*	<10.0	10.0	09/10/2025	ND	165	82.7	200	1.77	
EXT DRO >C28-C36	<10.0	10.0	09/10/2025	ND					

Surrogate: 1-Chlorooctane 98.1 % 44.4-145

Surrogate: 1-Chlorooctadecane 98.4 % 40.6-153

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/09/2025  
 Reported: 09/11/2025  
 Project Name: REMUDA BASIN BATTERY 1  
 Project Number: 03C1558004  
 Project Location: XTO 32.288623,-103.936333

Sampling Date: 09/08/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 09 19.5 (H255635-20)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/10/2025	ND	1.81	90.5	2.00	2.36	
Toluene*	<0.050	0.050	09/10/2025	ND	2.11	106	2.00	4.51	
Ethylbenzene*	<0.050	0.050	09/10/2025	ND	2.26	113	2.00	7.17	
Total Xylenes*	<0.150	0.150	09/10/2025	ND	7.04	117	6.00	7.20	
Total BTEX	<0.300	0.300	09/10/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 122 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1840	16.0	09/10/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/10/2025	ND	168	84.1	200	1.14	
DRO >C10-C28*	<10.0	10.0	09/10/2025	ND	165	82.7	200	1.77	
EXT DRO >C28-C36	<10.0	10.0	09/10/2025	ND					

Surrogate: 1-Chlorooctane 104 % 44.4-145

Surrogate: 1-Chlorooctadecane 104 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received: 09/09/2025  
 Reported: 09/11/2025  
 Project Name: REMUDA BASIN BATTERY 1  
 Project Number: 03C1558004  
 Project Location: XTO 32.288623,-103.936333

Sampling Date: 09/08/2025  
 Sampling Type: Soil  
 Sampling Condition: Cool & Intact  
 Sample Received By: Shalyn Rodriguez

**Sample ID: FS 10 19.5 (H255635-21)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/10/2025	ND	1.81	90.5	2.00	2.36	
Toluene*	<0.050	0.050	09/10/2025	ND	2.11	106	2.00	4.51	
Ethylbenzene*	<0.050	0.050	09/10/2025	ND	2.26	113	2.00	7.17	
Total Xylenes*	<0.150	0.150	09/10/2025	ND	7.04	117	6.00	7.20	
Total BTEX	<0.300	0.300	09/10/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 71.5-134

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	4080	16.0	09/10/2025	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/10/2025	ND	168	84.1	200	1.14	
DRO >C10-C28*	<10.0	10.0	09/10/2025	ND	165	82.7	200	1.77	
EXT DRO >C28-C36	<10.0	10.0	09/10/2025	ND					

Surrogate: 1-Chlorooctane 102 % 44.4-145

Surrogate: 1-Chlorooctadecane 103 % 40.6-153

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
\*\* Samples not received at proper temperature of 6°C or below.
\*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

1 of 3

Company Name: Ensolum, LLC

BILL TO

ANALYSIS REQUEST

Project Manager: Katherine Kahn P.O. #:  
 Address: 3122 National Parks Hwy Company: XTO Energy, Inc  
 City: Carlsbad State: NM Zip: 88220 Attn: DALE MOODALL  
 Phone #: 303.319.9604 Fax #: Address: 304 E. GREENE ST  
 Project #: 03C 1558 604 Project Owner: City: CARLSBAD  
 Project Name: REMUDA BASIN BATTERY #1 State: NM Zip: 88220  
 Project Location: 32.288623, -103.936333 Phone #: 661  
 Sampler Name: Chris Wright Fax #:

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	Chlorides	TPH	BTEX
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
<u>H353635</u>	1	0-4	C	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9/8/25	1357	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	2	4-16	C	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9/8/25	1155	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	3	4-16	C	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9/8/25	1154	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	4	4-16	C	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9/8/25	1152	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	5	4-16	C	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9/8/25	1149	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	6	4-16	C	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9/8/25	1359	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	7	4-16	C	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9/8/25	1401	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	8	4-16	C	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9/8/25	1210	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	9	4-16	C	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9/8/25	1241	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	10	4-16	C	1	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9/8/25	1244	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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Relinquished By: CFW Date: 9/9/25 Received By: Stoddiguy  
 Time: 13:10

Delivered By: (Circle One) Observed Temp. °C: 1.5 Sample Condition:  Intact  Broken  
 Sampler - UPS - Bus - Other: Corrected Temp. °C: 1.8 Cool Intact:  Yes  No

Turnaround Time: 48 Hrs Standard  Rush   
 Thermometer ID: #110 Correction Factor: +0.3 Bacteria (only) Sample Condition:  Intact  Observed Temp. °C:  Yes  No Corrected Temp. °C:  Yes  No

FORM-006-R 3.2 1/00/7/21  
 Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



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 (575) 393-2326 FAX (575) 393-2476

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

2 of 3

Company Name: Ensolum, LLC

**BILL TO**

**ANALYSIS REQUEST**

Project Manager: Katherine Kahn  
 Address: 3122 National Parks Hwy  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: 303.319.9604 Fax #:   
 Project #: 03C 1558 004 Project Owner:   
 Project Name: Remuda Basin Battery #1  
 Project Location: 32.288623, -103.936333  
 Sampler Name: Charles Mergart  
 P.O. #:   
 Company: XTO Energy, Inc  
 Attn: Dale Woodall  
 Address: 304 E. Geneva St  
 City: Carlsbad  
 State: NM Zip: 88220  
 Phone #: 661  
 Fax #: 661

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	Chlorides	TPH	BTEX
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:					
<u>HS5635</u>																
11	SN35	16-19.5	C	1								9/8/25	1207	✓	✓	✓
12	FS01	19.5	C	1	✓							9/8/25	1242	✓	✓	✓
13	FS02	19.5	C	1	✓							9/8/25	1233	✓	✓	✓
14	FS03	19.5	C	1	✓							9/8/25	1236	✓	✓	✓
15	FS04	19.5	C	1	✓							9/8/25	1239	✓	✓	✓
14	FS05	19.5	C	1	✓							9/8/25	1215	✓	✓	✓
17	FS06	19.5	C	1	✓							9/8/25	1213	✓	✓	✓
18	FS07	19.5	C	1	✓							9/8/25	1220	✓	✓	✓
19	FS08	19.5	C	1	✓							9/8/25	1218	✓	✓	✓
20	FS09	19.5	C	1	✓							9/8/25	1226	✓	✓	✓

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Relinquished By: OFW  
 Date: 9/8/25  
 Time: 1340  
 Received By: Steedraign  
 Date:   
 Time:   
 Received By:   
 Verbal Result:  Yes  No  Add'l Phone #:   
 All Results are emailed. Please provide Email address:   
 REMARKS:   
 Incident:   
 Cost Center:   
 Turnaround Time: 48 Hr Standard  Rush   
 Thermometer ID: #140  
 Correction Factor: 10.3  
 Bacteria (only) Sample Condition  Cool Intact  Yes  No  Corrected Temp. °C

Delivered By: (Circle One)  UPS  Bus  Other:   
 Observed Temp. °C: 15.1  
 Corrected Temp. °C: 1.82  
 Sample Condition:  Cool Intact  Yes  No  Checked By: SR  
 FORM-006 R 3.2 10/07/21  
 † Cardinal cannot accept verbal changes. Please email changes to celey.keene@cardinallabsnm.com



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

3 of 3

BILL TO

ANALYSIS REQUEST

Company Name: **Einsolum, LLC**  
 Project Manager: **Katharine Kahn**  
 Address: **3122 National Parks Hwy**  
 City: **Carlsbad** State: **NM** Zip: **88220**  
 Phone #: **503.319.9604** Fax #: \_\_\_\_\_  
 Project #: **03C 1558 604** Project Owner: \_\_\_\_\_  
 Project Name: **Remuda Basin Battery #1**  
 Project Location: **32.288623, -103.936333**  
 Sampler Name: **Chels Wright**  
 P.O. #: \_\_\_\_\_  
 Company: **XTO Energy, Inc**  
 Attn: **DALE MOORE**  
 Address: **304 E. GREEN ST**  
 City: **CARLSBAD**  
 State: **NM** Zip: **88220**  
 Phone #: \_\_\_\_\_  
 Fax #: \_\_\_\_\_

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	Chlorides	TPH	BTEX
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:					
H255635	21 FS10	19.5	C	1								9/8/25	1229	✓	✓	✓

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Relinquished By: **OFW**  
 Date: **9/9/25**  
 Time: **1340**  
 Received By: **Stocking**  
 Date: \_\_\_\_\_  
 Time: \_\_\_\_\_

Delivered By: (Circle One)  
 Sampler - UPS - Bus - Other: \_\_\_\_\_  
 Observed Temp. °C: **15.5**  
 Corrected Temp. °C: **1.8**  
 Sample Condition: Cool Intact  Yes  No  
 Checked By: **SR**  
 Turnaround Time: **48 hr** Standard  Rush   
 Thermometer ID: **#140**  
 Correction Factor: **TD.3**  
 Bacteria (only) Sample Condition: Cool Intact  Yes  No  
 Corrected Temp. °C: \_\_\_\_\_



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

---

September 24, 2025

KATHERINE KHAN  
ENSOLUM, LLC  
705 W WADLEY AVE.  
MIDLAND, TX 79705

RE: REMUDA BASIN BATTERY #1

Enclosed are the results of analyses for samples received by the laboratory on 09/18/25 13:15.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene  
Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM, LLC  
 KATHERINE KHAN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	09/18/2025	Sampling Date:	09/17/2025
Reported:	09/24/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY #1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.288623, -103.936333		

**Sample ID: SW 07 A 0-4 (H255840-01)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2025	ND	1.94	96.8	2.00	1.15	
Toluene*	<0.050	0.050	09/20/2025	ND	2.04	102	2.00	0.779	
Ethylbenzene*	<0.050	0.050	09/20/2025	ND	2.04	102	2.00	0.146	
Total Xylenes*	<0.150	0.150	09/20/2025	ND	5.97	99.6	6.00	0.0908	
Total BTEX	<0.300	0.300	09/20/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 70.4-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	09/19/2025	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2025	ND	234	117	200	1.16	
DRO >C10-C28*	<10.0	10.0	09/19/2025	ND	225	112	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	09/19/2025	ND					

Surrogate: 1-Chlorooctane 106 % 52.4-130

Surrogate: 1-Chlorooctadecane 103 % 39.9-141

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM, LLC  
 KATHERINE KHAN  
 705 W WADLEY AVE.  
 MIDLAND TX, 79705  
 Fax To:

Received:	09/18/2025	Sampling Date:	09/17/2025
Reported:	09/24/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY #1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.288623, -103.936333		

**Sample ID: SW 28 A 4-16 (H255840-02)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/20/2025	ND	1.94	96.8	2.00	1.15	
Toluene*	<0.050	0.050	09/20/2025	ND	2.04	102	2.00	0.779	
Ethylbenzene*	<0.050	0.050	09/20/2025	ND	2.04	102	2.00	0.146	
Total Xylenes*	<0.150	0.150	09/20/2025	ND	5.97	99.6	6.00	0.0908	
Total BTEX	<0.300	0.300	09/20/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	544	16.0	09/19/2025	ND	448	112	400	3.64	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/19/2025	ND	234	117	200	1.16	
DRO >C10-C28*	<10.0	10.0	09/19/2025	ND	225	112	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	09/19/2025	ND					

Surrogate: 1-Chlorooctane 98.1 % 52.4-130

Surrogate: 1-Chlorooctadecane 95.4 % 39.9-141

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
\*\* Samples not received at proper temperature of 6°C or below.
\*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

**BILL TO**

**ANALYSIS REQUEST**

Company Name: Ensolum, LLC		P.O. #:	
Project Manager: Katherine Kahn		Company: XTO Energy, Inc	
Address: 601 N Marientfeld Street, Suite 400		Attn: Colton Brown	
City: Midland	State: TX	Zip: 79701	Address: 3104 E Greene St
Phone #: 575-937-3906	Fax #:	City: Carlsbad	State: NM Zip: 88220
Project #: 03C1558004	Project Owner: XTO Energy	Phone #:	
Project Name: Remuda Basin Battery #1	- SPILLS		
Project Location: 32.288623, -103.936333			
Sampler Name: Evan Roe			

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						PRESERV.		DATE	TIME	TPH 8015	BTEX 8021	Chloride 4500
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL					
	SW07A	0-4	C	1								9/17/2025	1525				
	SW28A	4-16	C	1								9/17/2025	1111				

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Relinquished By: *[Signature]* Date: 9-18-25  
 Received By: *[Signature]* Date: 9-18-25  
 Turnaround Time: Standard  Rush

Delivered By: (Circle One) Observed Temp. °C: 28.8  
 Sampler - UPS - Bus - Other: Corrected Temp. °C: 3.1  
 Sample Condition: Cool Intact  Yes  No  
 Checked By: (Initials) *[Signature]*

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



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

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October 01, 2025

KATHERINE KHAN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: REMUDA BASIN BATTERY 1

Enclosed are the results of analyses for samples received by the laboratory on 09/29/25 12:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/29/2025	Sampling Date:	09/26/2025
Reported:	10/01/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH01 A 20 (H256083-01)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/30/2025	ND	1.80	90.1	2.00	13.2	
Toluene*	<0.050	0.050	09/30/2025	ND	1.80	90.1	2.00	8.43	
Ethylbenzene*	<0.050	0.050	09/30/2025	ND	1.76	88.1	2.00	4.77	
Total Xylenes*	<0.150	0.150	09/30/2025	ND	5.16	86.1	6.00	4.69	
Total BTEX	<0.300	0.300	09/30/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.7 % 70.4-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	704	16.0	09/30/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/30/2025	ND	212	106	200	1.24	
DRO >C10-C28*	<10.0	10.0	09/30/2025	ND	218	109	200	1.24	
EXT DRO >C28-C36	<10.0	10.0	09/30/2025	ND					

Surrogate: 1-Chlorooctane 86.8 % 52.4-130

Surrogate: 1-Chlorooctadecane 83.9 % 39.9-141

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/29/2025	Sampling Date:	09/26/2025
Reported:	10/01/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH01 B 22 (H256083-02)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/30/2025	ND	1.80	90.1	2.00	13.2		
Toluene*	<0.050	0.050	09/30/2025	ND	1.80	90.1	2.00	8.43		
Ethylbenzene*	<0.050	0.050	09/30/2025	ND	1.76	88.1	2.00	4.77		
Total Xylenes*	<0.150	0.150	09/30/2025	ND	5.16	86.1	6.00	4.69		
Total BTEX	<0.300	0.300	09/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.7 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	832	16.0	09/30/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/30/2025	ND	212	106	200	1.24		
DRO >C10-C28*	<10.0	10.0	09/30/2025	ND	218	109	200	1.24		
EXT DRO >C28-C36	<10.0	10.0	09/30/2025	ND						

Surrogate: 1-Chlorooctane 76.5 % 52.4-130

Surrogate: 1-Chlorooctadecane 75.0 % 39.9-141

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/29/2025	Sampling Date:	09/26/2025
Reported:	10/01/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH01 C 24 (H256083-03)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/30/2025	ND	1.80	90.1	2.00	13.2		
Toluene*	<0.050	0.050	09/30/2025	ND	1.80	90.1	2.00	8.43		
Ethylbenzene*	<0.050	0.050	09/30/2025	ND	1.76	88.1	2.00	4.77		
Total Xylenes*	<0.150	0.150	09/30/2025	ND	5.16	86.1	6.00	4.69		
Total BTEX	<0.300	0.300	09/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 92.5 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	848	16.0	09/30/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/30/2025	ND	212	106	200	1.24		
DRO >C10-C28*	<10.0	10.0	09/30/2025	ND	218	109	200	1.24		
EXT DRO >C28-C36	<10.0	10.0	09/30/2025	ND						

Surrogate: 1-Chlorooctane 91.0 % 52.4-130

Surrogate: 1-Chlorooctadecane 88.3 % 39.9-141

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/29/2025	Sampling Date:	09/26/2025
Reported:	10/01/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH01 D 26 (H256083-04)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/30/2025	ND	1.80	90.1	2.00	13.2	
Toluene*	<0.050	0.050	09/30/2025	ND	1.80	90.1	2.00	8.43	
Ethylbenzene*	<0.050	0.050	09/30/2025	ND	1.76	88.1	2.00	4.77	
Total Xylenes*	<0.150	0.150	09/30/2025	ND	5.16	86.1	6.00	4.69	
Total BTEX	<0.300	0.300	09/30/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.4 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	09/30/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/30/2025	ND	212	106	200	1.24	
DRO >C10-C28*	<10.0	10.0	09/30/2025	ND	218	109	200	1.24	
EXT DRO >C28-C36	<10.0	10.0	09/30/2025	ND					

Surrogate: 1-Chlorooctane 86.7 % 52.4-130

Surrogate: 1-Chlorooctadecane 83.1 % 39.9-141

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/29/2025	Sampling Date:	09/26/2025
Reported:	10/01/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH01 E 28 (H256083-05)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/30/2025	ND	1.80	90.1	2.00	13.2		
Toluene*	<0.050	0.050	09/30/2025	ND	1.80	90.1	2.00	8.43		
Ethylbenzene*	<0.050	0.050	09/30/2025	ND	1.76	88.1	2.00	4.77		
Total Xylenes*	<0.150	0.150	09/30/2025	ND	5.16	86.1	6.00	4.69		
Total BTEX	<0.300	0.300	09/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.1 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	48.0	16.0	09/30/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/30/2025	ND	212	106	200	1.24		
DRO >C10-C28*	<10.0	10.0	09/30/2025	ND	218	109	200	1.24		
EXT DRO >C28-C36	<10.0	10.0	09/30/2025	ND						

Surrogate: 1-Chlorooctane 83.2 % 52.4-130

Surrogate: 1-Chlorooctadecane 82.0 % 39.9-141

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/29/2025	Sampling Date:	09/26/2025
Reported:	10/01/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH02 A 20 (H256083-06)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/30/2025	ND	1.80	90.1	2.00	13.2		
Toluene*	<0.050	0.050	09/30/2025	ND	1.80	90.1	2.00	8.43		
Ethylbenzene*	<0.050	0.050	09/30/2025	ND	1.76	88.1	2.00	4.77		
Total Xylenes*	<0.150	0.150	09/30/2025	ND	5.16	86.1	6.00	4.69		
Total BTEX	<0.300	0.300	09/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.5 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	2020	16.0	09/30/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/30/2025	ND	212	106	200	1.24		
DRO >C10-C28*	<10.0	10.0	09/30/2025	ND	218	109	200	1.24		
EXT DRO >C28-C36	<10.0	10.0	09/30/2025	ND						

Surrogate: 1-Chlorooctane 82.8 % 52.4-130

Surrogate: 1-Chlorooctadecane 81.1 % 39.9-141

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/29/2025	Sampling Date:	09/26/2025
Reported:	10/01/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH02 B 22 (H256083-07)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/30/2025	ND	1.80	90.1	2.00	13.2	
Toluene*	<0.050	0.050	09/30/2025	ND	1.80	90.1	2.00	8.43	
Ethylbenzene*	<0.050	0.050	09/30/2025	ND	1.76	88.1	2.00	4.77	
Total Xylenes*	<0.150	0.150	09/30/2025	ND	5.16	86.1	6.00	4.69	
Total BTEX	<0.300	0.300	09/30/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 92.6 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1970	16.0	09/30/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/30/2025	ND	212	106	200	1.24	
DRO >C10-C28*	<10.0	10.0	09/30/2025	ND	218	109	200	1.24	
EXT DRO >C28-C36	<10.0	10.0	09/30/2025	ND					

Surrogate: 1-Chlorooctane 83.1 % 52.4-130

Surrogate: 1-Chlorooctadecane 80.5 % 39.9-141

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/29/2025	Sampling Date:	09/26/2025
Reported:	10/01/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH02 C 26 (H256083-08)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/30/2025	ND	1.80	90.1	2.00	13.2		
Toluene*	<0.050	0.050	09/30/2025	ND	1.80	90.1	2.00	8.43		
Ethylbenzene*	<0.050	0.050	09/30/2025	ND	1.76	88.1	2.00	4.77		
Total Xylenes*	<0.150	0.150	09/30/2025	ND	5.16	86.1	6.00	4.69		
Total BTEX	<0.300	0.300	09/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 92.7 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	512	16.0	09/30/2025	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/30/2025	ND	212	106	200	1.24		
DRO >C10-C28*	<10.0	10.0	09/30/2025	ND	218	109	200	1.24		
EXT DRO >C28-C36	<10.0	10.0	09/30/2025	ND						

Surrogate: 1-Chlorooctane 91.3 % 52.4-130

Surrogate: 1-Chlorooctadecane 86.9 % 39.9-141

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/29/2025	Sampling Date:	09/26/2025
Reported:	10/01/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH02 D 28 (H256083-09)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/30/2025	ND	1.80	90.1	2.00	13.2	
Toluene*	<0.050	0.050	09/30/2025	ND	1.80	90.1	2.00	8.43	
Ethylbenzene*	<0.050	0.050	09/30/2025	ND	1.76	88.1	2.00	4.77	
Total Xylenes*	<0.150	0.150	09/30/2025	ND	5.16	86.1	6.00	4.69	
Total BTEX	<0.300	0.300	09/30/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.9 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	09/30/2025	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/30/2025	ND	212	106	200	1.24	
DRO >C10-C28*	<10.0	10.0	09/30/2025	ND	218	109	200	1.24	
EXT DRO >C28-C36	<10.0	10.0	09/30/2025	ND					

Surrogate: 1-Chlorooctane 93.1 % 52.4-130

Surrogate: 1-Chlorooctadecane 89.0 % 39.9-141

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Celey D. Keene, Lab Director/Quality Manager



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**Notes and Definitions**

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

**BILL TO**

**ANALYSIS REQUEST**

Company Name: Ensolium, LLC  
 Project Manager: KATHLEEN KAHN  
 Address: 3122 National Parks Hwy  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: 303.319.9604 Fax #:   
 Project #: 03C1558004 Project Owner:   
 Project Name: Remuda Basin Battery 1  
 Project Location: S2.288623, -103.956333  
 Sampler Name: CHET HIGHT  
 P.O. #:   
 Company: XTO Energy, Inc  
 Attn: DALE HODDALL  
 Address: 5101 E Avenue St  
 City: CARLSBAD  
 State: NM Zip: 88220  
 Phone #: 505  
 Fax #: 505

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	Chlorides	TPH	BTEX
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:					
<u>H576083</u>																
1	BH01A	20	G	1								9/26/25	1124	✓	✓	✓
2	BH01B	22	G	1								9/26/25	1137	✓	✓	✓
3	BH01C	24	G	1								9/26/25	1149	✓	✓	✓
4	BH01D	26	G	1								9/26/25	1221	✓	✓	✓
5	BH01E	28	G	1								9/26/25	1420	✓	✓	✓
6	BH02A	20	G	1								9/26/25	1427	✓	✓	✓
7	BH02B	22	G	1								9/26/25	1448	✓	✓	✓
8	BH02C	26	G	1								9/26/25	1505	✓	✓	✓
9	BH02D	28	G	1								9/26/25	1403	✓	✓	✓

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Relinquished By: [Signature] Date: 9-29-25 Received By: [Signature] Date: 9-29-25  
 Time: 1830 Received By: [Signature]  
 Time: \_\_\_\_\_

Delivered By: (Circle One) Observed Temp. °C: 24 Sample Condition:  Intact  Broken  
 Corrected Temp. °C: 27  Yes  No

Sampler - UPS - Bus - Other: \_\_\_\_\_ Checked By: [Signature] (Initials)  
 Turbidity Time: \_\_\_\_\_ Standard  Rush   
 Thermometer ID: #1410 Bacteria (only) Sample Condition:  Intact  Broken  
 Correction Factor: +0.3  Yes  No Corrected Temp. °C: \_\_\_\_\_

FORM-006 R 3.2 10/07/21  
 + Cardinal cannot accept verbal changes. Please email changes to cely.keene@cardinallabsnm.com



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

October 01, 2025

KATHERINE KHAN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: REMUDA BASIN BATTERY 1

Enclosed are the results of analyses for samples received by the laboratory on 09/30/25 13:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/30/2025	Sampling Date:	09/29/2025
Reported:	10/01/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH06 A 0.5' (H256107-01)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/30/2025	ND	1.73	86.7	2.00	1.21	
Toluene*	<0.050	0.050	09/30/2025	ND	1.78	88.8	2.00	0.604	
Ethylbenzene*	<0.050	0.050	09/30/2025	ND	1.75	87.6	2.00	1.05	
Total Xylenes*	<0.150	0.150	09/30/2025	ND	5.11	85.2	6.00	1.13	
Total BTEX	<0.300	0.300	09/30/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 89.3 % 70.4-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>640</b>	16.0	10/01/2025	ND	416	104	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/30/2025	ND	216	108	200	2.24	
<b>DRO &gt;C10-C28*</b>	<b>64.1</b>	10.0	09/30/2025	ND	217	109	200	2.93	
<b>EXT DRO &gt;C28-C36</b>	<b>21.5</b>	10.0	09/30/2025	ND					

Surrogate: 1-Chlorooctane 93.1 % 52.4-130

Surrogate: 1-Chlorooctadecane 98.4 % 39.9-141

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/30/2025	Sampling Date:	09/29/2025
Reported:	10/01/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH06 B 5' (H256107-02)**

BTEX 8021B		mg/kg		Analyzed By: JH				S-04		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/30/2025	ND	1.73	86.7	2.00	1.21		
Toluene*	<0.050	0.050	09/30/2025	ND	1.78	88.8	2.00	0.604	GC-NC	
Ethylbenzene*	<0.050	0.050	09/30/2025	ND	1.75	87.6	2.00	1.05	GC-NC	
<b>Total Xylenes*</b>	<b>1.32</b>	0.150	09/30/2025	ND	5.11	85.2	6.00	1.13	GC-NC1	
<b>Total BTEX</b>	<b>1.32</b>	0.300	09/30/2025	ND					GC-NC1	

Surrogate: 4-Bromofluorobenzene (PID) 237 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>1090</b>	16.0	10/01/2025	ND	416	104	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10*</b>	<b>58.7</b>	10.0	09/30/2025	ND	216	108	200	2.24		
<b>DRO &gt;C10-C28*</b>	<b>430</b>	10.0	09/30/2025	ND	217	109	200	2.93		
<b>EXT DRO &gt;C28-C36</b>	<b>55.2</b>	10.0	09/30/2025	ND						

Surrogate: 1-Chlorooctane 96.9 % 52.4-130

Surrogate: 1-Chlorooctadecane 105 % 39.9-141

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/30/2025	Sampling Date:	09/29/2025
Reported:	10/01/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH06 C 10' (H256107-03)**

BTEX 8021B		mg/kg		Analyzed By: JH				S-04		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Benzene*</b>	<b>0.077</b>	0.050	09/30/2025	ND	1.73	86.7	2.00	1.21		
Toluene*	<0.050	0.050	09/30/2025	ND	1.78	88.8	2.00	0.604	GC-NC	
Ethylbenzene*	<0.050	0.050	09/30/2025	ND	1.75	87.6	2.00	1.05	GC-NC	
<b>Total Xylenes*</b>	<b>1.64</b>	0.150	09/30/2025	ND	5.11	85.2	6.00	1.13	GC-NC1	
<b>Total BTEX</b>	<b>1.72</b>	0.300	09/30/2025	ND					GC-NC1	

Surrogate: 4-Bromofluorobenzene (PID) 171 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>656</b>	16.0	10/01/2025	ND	416	104	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10*</b>	<b>27.4</b>	10.0	09/30/2025	ND	216	108	200	2.24		
<b>DRO &gt;C10-C28*</b>	<b>154</b>	10.0	09/30/2025	ND	217	109	200	2.93		
<b>EXT DRO &gt;C28-C36</b>	<b>15.7</b>	10.0	09/30/2025	ND						

Surrogate: 1-Chlorooctane 94.5 % 52.4-130

Surrogate: 1-Chlorooctadecane 97.8 % 39.9-141

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/30/2025	Sampling Date:	09/29/2025
Reported:	10/01/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH06 D 15' (H256107-04)**

BTEX 8021B		mg/kg		Analyzed By: JH				S-04		
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Benzene*</b>	<b>0.118</b>	0.050	09/30/2025	ND	1.73	86.7	2.00	1.21		
Toluene*	<0.050	0.050	09/30/2025	ND	1.78	88.8	2.00	0.604	GC-NC	
Ethylbenzene*	<0.050	0.050	09/30/2025	ND	1.75	87.6	2.00	1.05	GC-NC	
<b>Total Xylenes*</b>	<b>1.58</b>	0.150	09/30/2025	ND	5.11	85.2	6.00	1.13	GC-NC1	
<b>Total BTEX</b>	<b>1.70</b>	0.300	09/30/2025	ND					GC-NC1	

Surrogate: 4-Bromofluorobenzene (PID) 152 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>400</b>	16.0	10/01/2025	ND	416	104	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>GRO C6-C10*</b>	<b>23.6</b>	10.0	09/30/2025	ND	216	108	200	2.24		
<b>DRO &gt;C10-C28*</b>	<b>74.2</b>	10.0	09/30/2025	ND	217	109	200	2.93		
EXT DRO >C28-C36	<10.0	10.0	09/30/2025	ND						

Surrogate: 1-Chlorooctane 92.7 % 52.4-130

Surrogate: 1-Chlorooctadecane 96.1 % 39.9-141

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/30/2025	Sampling Date:	09/29/2025
Reported:	10/01/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH06 E 18' (H256107-05)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	09/30/2025	ND	1.73	86.7	2.00	1.21	
Toluene*	<0.050	0.050	09/30/2025	ND	1.78	88.8	2.00	0.604	
Ethylbenzene*	<0.050	0.050	09/30/2025	ND	1.75	87.6	2.00	1.05	
Total Xylenes*	<0.150	0.150	09/30/2025	ND	5.11	85.2	6.00	1.13	
Total BTEX	<0.300	0.300	09/30/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.7 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>160</b>	16.0	10/01/2025	ND	416	104	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	09/30/2025	ND	216	108	200	2.24	
<b>DRO &gt;C10-C28*</b>	<b>54.8</b>	10.0	09/30/2025	ND	217	109	200	2.93	
EXT DRO >C28-C36	<10.0	10.0	09/30/2025	ND					

Surrogate: 1-Chlorooctane 93.3 % 52.4-130

Surrogate: 1-Chlorooctadecane 98.2 % 39.9-141

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/30/2025	Sampling Date:	09/29/2025
Reported:	10/01/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH07 A 0.5' (H256107-06)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/30/2025	ND	1.73	86.7	2.00	1.21		
Toluene*	<0.050	0.050	09/30/2025	ND	1.78	88.8	2.00	0.604		
Ethylbenzene*	<0.050	0.050	09/30/2025	ND	1.75	87.6	2.00	1.05		
Total Xylenes*	<0.150	0.150	09/30/2025	ND	5.11	85.2	6.00	1.13		
Total BTEX	<0.300	0.300	09/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 93.6 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	592	16.0	10/01/2025	ND	416	104	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/30/2025	ND	216	108	200	2.24		
DRO >C10-C28*	<10.0	10.0	09/30/2025	ND	217	109	200	2.93		
EXT DRO >C28-C36	<10.0	10.0	09/30/2025	ND						

Surrogate: 1-Chlorooctane 84.9 % 52.4-130

Surrogate: 1-Chlorooctadecane 83.7 % 39.9-141

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	09/30/2025	Sampling Date:	09/29/2025
Reported:	10/01/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH07 B 5' (H256107-07)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	09/30/2025	ND	1.73	86.7	2.00	1.21		
Toluene*	<0.050	0.050	09/30/2025	ND	1.78	88.8	2.00	0.604		
Ethylbenzene*	<0.050	0.050	09/30/2025	ND	1.75	87.6	2.00	1.05		
Total Xylenes*	<0.150	0.150	09/30/2025	ND	5.11	85.2	6.00	1.13		
Total BTEX	<0.300	0.300	09/30/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.8 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1060	16.0	10/01/2025	ND	416	104	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	09/30/2025	ND	216	108	200	2.24		
DRO >C10-C28*	<10.0	10.0	09/30/2025	ND	217	109	200	2.93		
EXT DRO >C28-C36	<10.0	10.0	09/30/2025	ND						

Surrogate: 1-Chlorooctane 90.3 % 52.4-130

Surrogate: 1-Chlorooctadecane 90.4 % 39.9-141

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Notes and Definitions

- S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
GC-NC1 8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are biased high with interfering compounds.
GC-NC 8260 confirmation analysis was performed; initial GC results were not supported by GC/MS analysis and are reported as ND.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
\*\* Samples not received at proper temperature of 6°C or below.
\*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

Company Name: Ensolum, LLC

**BILL TO**

**ANALYSIS REQUEST**

Project Manager: KATIELINE KAHN

P.O. #:

Address: 3122 National Parks Hwy

Company: XTO Energy, Inc

City: Carlsbad

State: NM Zip: 88220

Attn: DALE WOODALL

Phone #: 303.319.9604

Fax #:

Address: 5101 E Greave St

Project #: 03C1558004

Project Owner:

City: ALBUQUERQUE

Project Name: Lemuda Basin Battery 1

State: NM Zip: 88220

Project Location: S2.288623, -103.956333

Phone #:

Sampler Name: CHRIS WRIGHT

Fax #:

FOR LAB USE ONLY

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX							DATE	TIME	Chlorides	TPH	BTEX
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:					
H56107	BH06A	0.5	G	1	✓							9/29/25	0925	✓	✓	✓
	BH06B	5	G	1	✓							9/29/25	1020	✓	✓	✓
	BH06C	10	G	1	✓							9/29/25	1128	✓	✓	✓
	BH06D	15	G	1	✓							9/29/25	1223	✓	✓	✓
	BH06E	18	G	1	✓							9/29/25	1422	✓	✓	✓
	BH07A	0.5	G	1	✓							9/29/25	1516	✓	✓	✓
	BH07B	5	G	1	✓							9/29/25	1553	✓	✓	✓

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Relinquished By: *[Signature]* Date: 9-30-25 Received By: *[Signature]* Date: 9-30-25

Time: 1305

Relinquished By: *[Signature]* Date: *[Signature]*

Delivered By: (Circle One)  UPS  Bus  Other:

Observed Temp. °C: 3.4 Corrected Temp. °C: 3.7

Sample Condition:  Cool  Intact  Yes  No

CHECKED BY: *[Signature]*

Turnaround Time: 48 Hrs Standard  Rush

Thermometer ID: #148 Correction Factor: +0.3°C

Bacteria (only)  Cool  Intact  Yes  No

Sample Condition  Observed Temp. °C  Corrected Temp. °C

FORM-006 R 3.2 10/07/21

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



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

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October 06, 2025

KATHERINE KHAN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: REMUDA BASIN BATTERY 1

Enclosed are the results of analyses for samples received by the laboratory on 10/02/25 14:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	10/02/2025	Sampling Date:	09/30/2025
Reported:	10/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH 03A 20 (H256161-01)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2025	ND	1.66	83.2	2.00	7.62	
Toluene*	<0.050	0.050	10/03/2025	ND	1.70	85.0	2.00	7.43	
Ethylbenzene*	<0.050	0.050	10/03/2025	ND	1.68	83.9	2.00	8.24	
Total Xylenes*	<0.150	0.150	10/03/2025	ND	4.91	81.8	6.00	8.28	
Total BTEX	<0.300	0.300	10/03/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 90.4 % 70.4-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	10/03/2025	ND	416	104	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/03/2025	ND	220	110	200	0.518	
DRO >C10-C28*	<10.0	10.0	10/03/2025	ND	211	105	200	1.63	
EXT DRO >C28-C36	<10.0	10.0	10/03/2025	ND					

Surrogate: 1-Chlorooctane 92.8 % 52.4-130

Surrogate: 1-Chlorooctadecane 91.7 % 39.9-141

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	10/02/2025	Sampling Date:	09/30/2025
Reported:	10/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH 03B 22 (H256161-02)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/03/2025	ND	1.66	83.2	2.00	7.62		
Toluene*	<0.050	0.050	10/03/2025	ND	1.70	85.0	2.00	7.43		
Ethylbenzene*	<0.050	0.050	10/03/2025	ND	1.68	83.9	2.00	8.24		
Total Xylenes*	<0.150	0.150	10/03/2025	ND	4.91	81.8	6.00	8.28		
Total BTEX	<0.300	0.300	10/03/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 90.4 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>64.0</b>	16.0	10/03/2025	ND	416	104	400	7.41		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/03/2025	ND	220	110	200	0.518		
<b>DRO &gt;C10-C28*</b>	<b>26.8</b>	10.0	10/03/2025	ND	211	105	200	1.63		
<b>EXT DRO &gt;C28-C36</b>	<b>20.4</b>	10.0	10/03/2025	ND						

Surrogate: 1-Chlorooctane 94.7 % 52.4-130

Surrogate: 1-Chlorooctadecane 93.2 % 39.9-141

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	10/02/2025	Sampling Date:	09/30/2025
Reported:	10/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH 03C 24 (H256161-03)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2025	ND	1.66	83.2	2.00	7.62	
Toluene*	<0.050	0.050	10/03/2025	ND	1.70	85.0	2.00	7.43	
Ethylbenzene*	<0.050	0.050	10/03/2025	ND	1.68	83.9	2.00	8.24	
Total Xylenes*	<0.150	0.150	10/03/2025	ND	4.91	81.8	6.00	8.28	
Total BTEX	<0.300	0.300	10/03/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.4 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/03/2025	ND	416	104	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/03/2025	ND	220	110	200	0.518	
DRO >C10-C28*	<10.0	10.0	10/03/2025	ND	211	105	200	1.63	
EXT DRO >C28-C36	<10.0	10.0	10/03/2025	ND					

Surrogate: 1-Chlorooctane 97.5 % 52.4-130

Surrogate: 1-Chlorooctadecane 95.1 % 39.9-141

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	10/02/2025	Sampling Date:	09/30/2025
Reported:	10/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH 06F 20 (H256161-04)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2025	ND	1.66	83.2	2.00	7.62	
Toluene*	<0.050	0.050	10/03/2025	ND	1.70	85.0	2.00	7.43	
Ethylbenzene*	<0.050	0.050	10/03/2025	ND	1.68	83.9	2.00	8.24	
Total Xylenes*	<0.150	0.150	10/03/2025	ND	4.91	81.8	6.00	8.28	
Total BTEX	<0.300	0.300	10/03/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 90.5 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
<b>Chloride</b>	<b>32.0</b>	16.0	10/03/2025	ND	416	104	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/03/2025	ND	220	110	200	0.518	
<b>DRO &gt;C10-C28*</b>	<b>21.6</b>	10.0	10/03/2025	ND	211	105	200	1.63	
EXT DRO >C28-C36	<10.0	10.0	10/03/2025	ND					

Surrogate: 1-Chlorooctane 95.7 % 52.4-130

Surrogate: 1-Chlorooctadecane 94.0 % 39.9-141

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Celey D. Keene, Lab Director/Quality Manager



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**Notes and Definitions**

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene, Lab Director/Quality Manager



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

**BILL TO**

**ANALYSIS REQUEST**

Company Name: Ensolum, LLC  
 Project Manager: KATHERINE KAHN  
 Address: 3122 National Parks Hwy  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: 303.319.9604 Fax #:   
 Project #: 03C1558004 Project Owner:   
 Project Name: REMUDA BASIN BARBER 1  
 Project Location: S2.288623, -103.956333  
 Sampler Name: GREG MUEHRT  
 P.O. #:   
 Company: XTO Energy, LLC  
 Attn: DALE WOODALL  
 Address: 5104 E. GARAGE ST  
 City: CARLSBAD  
 State: NM Zip: 88220  
 Phone #:   
 Fax #:   
 MATRIX:  GROUNDWATER  WASTEWATER  SOIL  OIL  SLUDGE  OTHER:   
 PRESERV:  ACID/BASE:  ICE / COOL  OTHER:   
 SAMPLING:   
 DATE: 9/30/25 TIME: 0829  
 DATE: 9/30/25 TIME: 0853  
 DATE: 9/30/25 TIME: 0941  
 DATE: 9/30/25 TIME: 1441

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	Chlorides	TPH	BTEX
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
H256161	BHD3A	20	G	1							9/30/25	0829	✓	✓	✓
	BHD3B	22	G	1							9/30/25	0853	✓	✓	✓
	BHD3C	24	G	1							9/30/25	0941	✓	✓	✓
	BHD6F	20	G	1							9/30/25	1441	✓	✓	✓

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Relinquished By: [Signature] Received By: [Signature]  
 Date: 10-2-25 Time: 1410  
 Date: [Signature] Received By: [Signature]  
 Date: [Signature] Received By: [Signature]  
 Time: [Signature]

Delivered By: (Circle One) Observed Temp. °C: 0.5 Corrected Temp. °C: 0.2  
 Sampler - UPS - Bus - Other: Sample Condition: Cool Intact  Yes  No  
 Checked By: [Signature] (Initials) [Signature]  
 Turbidity Time: 48 Hrs Standard  Rush   
 Thermometer ID: #140 Correction Factor: +0.3°C  
 Bacteria (only) Sample Condition: Cool Intact  Yes  No  
 Corrected Temp. °C: [ ]

FORM-006 R 3.2 10/07/21

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



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

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October 06, 2025

KATHERINE KHAN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: REMUDA BASIN BATTERY 1

Enclosed are the results of analyses for samples received by the laboratory on 10/02/25 14:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	10/02/2025	Sampling Date:	10/01/2025
Reported:	10/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH06 G 26' (H256162-01)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2025	ND	1.66	83.2	2.00	7.62	
Toluene*	<0.050	0.050	10/03/2025	ND	1.70	85.0	2.00	7.43	
Ethylbenzene*	<0.050	0.050	10/03/2025	ND	1.68	83.9	2.00	8.24	
Total Xylenes*	<0.150	0.150	10/03/2025	ND	4.91	81.8	6.00	8.28	
Total BTEX	<0.300	0.300	10/03/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 91.4 % 70.4-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: KH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	10/03/2025	ND	416	104	400	7.41	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/03/2025	ND	220	110	200	0.518	
DRO >C10-C28*	<10.0	10.0	10/03/2025	ND	211	105	200	1.63	
EXT DRO >C28-C36	<10.0	10.0	10/03/2025	ND					

Surrogate: 1-Chlorooctane 95.7 % 52.4-130

Surrogate: 1-Chlorooctadecane 93.7 % 39.9-141

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	10/02/2025	Sampling Date:	10/01/2025
Reported:	10/06/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH07 C 10' (H256162-02)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/03/2025	ND	1.66	83.2	2.00	7.62		
Toluene*	<0.050	0.050	10/03/2025	ND	1.70	85.0	2.00	7.43		
Ethylbenzene*	<0.050	0.050	10/03/2025	ND	1.68	83.9	2.00	8.24		
Total Xylenes*	<0.150	0.150	10/03/2025	ND	4.91	81.8	6.00	8.28		
Total BTEX	<0.300	0.300	10/03/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 91.3 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: KH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
<b>Chloride</b>	<b>480</b>	16.0	10/03/2025	ND	416	104	400	3.92		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/03/2025	ND	220	110	200	0.518		
DRO >C10-C28*	<10.0	10.0	10/03/2025	ND	211	105	200	1.63		
EXT DRO >C28-C36	<10.0	10.0	10/03/2025	ND						

Surrogate: 1-Chlorooctane 94.0 % 52.4-130

Surrogate: 1-Chlorooctadecane 92.3 % 39.9-141

Cardinal Laboratories

\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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**Notes and Definitions**

- ND Analyte NOT DETECTED at or above the reporting limit
- RPD Relative Percent Difference
- \*\* Samples not received at proper temperature of 6°C or below.
- \*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C  
Samples reported on an as received basis (wet) unless otherwise noted on report

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

**BILL TO**

**ANALYSIS REQUEST**

Company Name: Ensolum, LLC  
 Project Manager: Y. Antikine  
 Address: 3122 National Parks Hwy  
 City: Carlsbad State: NM Zip: 88220  
 Phone #: 303.319.9604 Fax #: Project Owner:  
 Project #: 03CL558004  
 Project Name: REMUDA BASIN BATTERY 1  
 Project Location: S2.288623, -103.956333  
 Sampler Name: CALEB M. LEIGHT  
 P.O. #: Company: XTO Energy, Inc  
 Attn: DALE WOODRALL  
 Address: 3101 E. GREEN ST  
 City: CARLSBAD State: NM Zip: 88220  
 Phone #: Fax #: 051

Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX						DATE	TIME	Chlorides	TPH	BTEX
					GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :					
H526162	1 B4D06G	26	G	1			✓				10/1/25	12:29	✓	✓	✓
	2 B4D7C	10	G	1			✓				10/1/25	15:54	✓	✓	✓

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Relinquished By: [Signature]  
 Date: 10-2-25  
 Time: 1410  
 Received By: [Signature]  
 Date: 10/1/25  
 Time: 1554

Delivered By: (Circle One)  
 Sampler - UPS - Bus - Other:  
 Observed Temp.: -0.5 °C  
 Corrected Temp.: -0.2 °C  
 Sample Condition: Cool Intact Yes  
 Checked By: [Signature]  
 Turbidity Time: 48 HL  
 Thermometer ID: #140  
 Correction Factor: +0.3 °C  
 Standard Rush  
 Bacteria (only) Sample Condition: Cool Intact Yes

FORM-006 R 3.2 10/07/21

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



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October 07, 2025

KATHERINE KHAN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: REMUDA BASIN BATTERY 1

Enclosed are the results of analyses for samples received by the laboratory on 10/03/25 11:43.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C25-00101. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (\*). For a complete list of accredited analytes and matrices visit the TCEQ website at [www.tceq.texas.gov/field/qa/lab\\_accred\\_certif.html](http://www.tceq.texas.gov/field/qa/lab_accred_certif.html).

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

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

Accreditation applies to public drinking water matrices.

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

Sincerely,

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

Celey D. Keene

Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	10/03/2025	Sampling Date:	10/02/2025
Reported:	10/07/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH04A 0.5' (H256190-01)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2025	ND	1.65	82.3	2.00	9.12	
Toluene*	<0.050	0.050	10/03/2025	ND	1.75	87.5	2.00	6.24	
Ethylbenzene*	<0.050	0.050	10/03/2025	ND	1.80	89.9	2.00	4.28	
Total Xylenes*	<0.150	0.150	10/03/2025	ND	5.61	93.5	6.00	3.72	
Total BTEX	<0.300	0.300	10/03/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 70.4-141

Chloride, SM4500Cl-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	10/06/2025	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/04/2025	ND	191	95.7	200	2.77	
DRO >C10-C28*	<10.0	10.0	10/04/2025	ND	215	107	200	4.29	
EXT DRO >C28-C36	<10.0	10.0	10/04/2025	ND					

Surrogate: 1-Chlorooctane 93.5 % 52.4-130

Surrogate: 1-Chlorooctadecane 90.8 % 39.9-141

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\*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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

**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	10/03/2025	Sampling Date:	10/02/2025
Reported:	10/07/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH04B 5' (H256190-02)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2025	ND	1.65	82.3	2.00	9.12	
Toluene*	<0.050	0.050	10/03/2025	ND	1.75	87.5	2.00	6.24	
Ethylbenzene*	<0.050	0.050	10/03/2025	ND	1.80	89.9	2.00	4.28	
Total Xylenes*	<0.150	0.150	10/03/2025	ND	5.61	93.5	6.00	3.72	
Total BTEX	<0.300	0.300	10/03/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	10/06/2025	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/04/2025	ND	191	95.7	200	2.77	
DRO >C10-C28*	<10.0	10.0	10/04/2025	ND	215	107	200	4.29	
EXT DRO >C28-C36	<10.0	10.0	10/04/2025	ND					

Surrogate: 1-Chlorooctane 103 % 52.4-130

Surrogate: 1-Chlorooctadecane 100 % 39.9-141

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	10/03/2025	Sampling Date:	10/02/2025
Reported:	10/07/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH04C 10' (H256190-03)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2025	ND	1.65	82.3	2.00	9.12	
Toluene*	<0.050	0.050	10/03/2025	ND	1.75	87.5	2.00	6.24	
Ethylbenzene*	<0.050	0.050	10/03/2025	ND	1.80	89.9	2.00	4.28	
Total Xylenes*	<0.150	0.150	10/03/2025	ND	5.61	93.5	6.00	3.72	
Total BTEX	<0.300	0.300	10/03/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 114 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	10/06/2025	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/04/2025	ND	191	95.7	200	2.77	
DRO >C10-C28*	<10.0	10.0	10/04/2025	ND	215	107	200	4.29	
EXT DRO >C28-C36	<10.0	10.0	10/04/2025	ND					

Surrogate: 1-Chlorooctane 99.9 % 52.4-130

Surrogate: 1-Chlorooctadecane 92.3 % 39.9-141

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	10/03/2025	Sampling Date:	10/02/2025
Reported:	10/07/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH04D 15' (H256190-04)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/03/2025	ND	1.65	82.3	2.00	9.12		
Toluene*	<0.050	0.050	10/03/2025	ND	1.75	87.5	2.00	6.24		
Ethylbenzene*	<0.050	0.050	10/03/2025	ND	1.80	89.9	2.00	4.28		
Total Xylenes*	<0.150	0.150	10/03/2025	ND	5.61	93.5	6.00	3.72		
Total BTEX	<0.300	0.300	10/03/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 117 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	96.0	16.0	10/06/2025	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/04/2025	ND	191	95.7	200	2.77		
DRO >C10-C28*	<10.0	10.0	10/04/2025	ND	215	107	200	4.29		
EXT DRO >C28-C36	<10.0	10.0	10/04/2025	ND						

Surrogate: 1-Chlorooctane 105 % 52.4-130

Surrogate: 1-Chlorooctadecane 96.1 % 39.9-141

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	10/03/2025	Sampling Date:	10/02/2025
Reported:	10/07/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH04E 20' (H256190-05)**

BTEX 8021B		mg/kg		Analyzed By: JH						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	10/03/2025	ND	1.65	82.3	2.00	9.12		
Toluene*	<0.050	0.050	10/03/2025	ND	1.75	87.5	2.00	6.24		
Ethylbenzene*	<0.050	0.050	10/03/2025	ND	1.80	89.9	2.00	4.28		
Total Xylenes*	<0.150	0.150	10/03/2025	ND	5.61	93.5	6.00	3.72		
Total BTEX	<0.300	0.300	10/03/2025	ND						

Surrogate: 4-Bromofluorobenzene (PID) 111 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	64.0	16.0	10/06/2025	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
GRO C6-C10*	<10.0	10.0	10/04/2025	ND	191	95.7	200	2.77		
DRO >C10-C28*	<10.0	10.0	10/04/2025	ND	215	107	200	4.29		
EXT DRO >C28-C36	<10.0	10.0	10/04/2025	ND						

Surrogate: 1-Chlorooctane 107 % 52.4-130

Surrogate: 1-Chlorooctadecane 97.8 % 39.9-141

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	10/03/2025	Sampling Date:	10/02/2025
Reported:	10/07/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH04F 25' (H256190-06)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2025	ND	1.65	82.3	2.00	9.12	
Toluene*	<0.050	0.050	10/03/2025	ND	1.75	87.5	2.00	6.24	
Ethylbenzene*	<0.050	0.050	10/03/2025	ND	1.80	89.9	2.00	4.28	
Total Xylenes*	<0.150	0.150	10/03/2025	ND	5.61	93.5	6.00	3.72	
Total BTEX	<0.300	0.300	10/03/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	10/06/2025	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/04/2025	ND	191	95.7	200	2.77	
DRO >C10-C28*	<10.0	10.0	10/04/2025	ND	215	107	200	4.29	
EXT DRO >C28-C36	<10.0	10.0	10/04/2025	ND					

Surrogate: 1-Chlorooctane 86.9 % 52.4-130

Surrogate: 1-Chlorooctadecane 81.6 % 39.9-141

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Celey D. Keene, Lab Director/Quality Manager



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**Analytical Results For:**

ENSOLUM  
 KATHERINE KHAN  
 3122 NATIONAL PARKS HWY  
 CARLSBAD NM, 88220  
 Fax To:

Received:	10/03/2025	Sampling Date:	10/02/2025
Reported:	10/07/2025	Sampling Type:	Soil
Project Name:	REMUDA BASIN BATTERY 1	Sampling Condition:	Cool & Intact
Project Number:	03C1558004	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.288623,-103.936333		

**Sample ID: BH04G 26' (H256190-07)**

BTEX 8021B		mg/kg		Analyzed By: JH					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	10/03/2025	ND	1.65	82.3	2.00	9.12	
Toluene*	<0.050	0.050	10/03/2025	ND	1.75	87.5	2.00	6.24	
Ethylbenzene*	<0.050	0.050	10/03/2025	ND	1.80	89.9	2.00	4.28	
Total Xylenes*	<0.150	0.150	10/03/2025	ND	5.61	93.5	6.00	3.72	
Total BTEX	<0.300	0.300	10/03/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID) 115 % 70.4-141

Chloride, SM4500CI-B		mg/kg		Analyzed By: HM					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	10/06/2025	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	10/04/2025	ND	191	95.7	200	2.77	
DRO >C10-C28*	<10.0	10.0	10/04/2025	ND	215	107	200	4.29	
EXT DRO >C28-C36	<10.0	10.0	10/04/2025	ND					

Surrogate: 1-Chlorooctane 100 % 52.4-130

Surrogate: 1-Chlorooctadecane 94.2 % 39.9-141

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Notes and Definitions

- QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND Analyte NOT DETECTED at or above the reporting limit
RPD Relative Percent Difference
\*\* Samples not received at proper temperature of 6°C or below.
\*\*\* Insufficient time to reach temperature.
- Chloride by SM4500Cl-B does not require samples be received at or below 6°C
Samples reported on an as received basis (wet) unless otherwise noted on report

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager



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

**CHAIN-OF-CUSTODY AND ANALYSIS REQUEST**

Company Name: Ensolum, LLC

**BILL TO**

**ANALYSIS REQUEST**

Project Manager: Katherine Kahn

Address: 3122 National Parks Hwy

City: Carlsbad

Phone #: 303.319.9604

Project #: 03C1558004

Project Name: Lemuda Basin Battery 1

Project Location: S2.288623, -103.956333

Sampler Name: CELEY KEENE

P.O. #:

Company: XTO Energy, Inc

Attn: DALE WOODRUFF

Address: 5101 E Green St

City: CARLSBAD

State: NM Zip: 88220

Phone #:

Fax #:

FOR LAB USE ONLY

**MATRIX**

**PRESERV**

**SAMPLING**

Lab I.D. Sample I.D.

Depth (feet)

H25 L040

Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME
BH04A	0.5	G	1			✓					✓		10/2/25	0942
BH04B	5	G	1			✓					✓		10/2/25	1031
BH04C	10	G	1			✓					✓		10/2/25	1152
BH04D	15	G	1			✓					✓		10/2/25	1347
BH04E	20	G	1			✓					✓		10/2/25	1538
BH04F	25	G	1			✓					✓		10/2/25	1608
BH04G	26	G	1			✓					✓		10/2/25	1633

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Relinquished By: [Signature]

Date: 10/03/25

Received By: [Signature]

Relinquished By: [Signature]

Date: 10/3/25

Received By: [Signature]

Delivered By: (Circle One) [Signature]

Observed Temp. °C: 8.12

Sample Condition: Cool Intact

CHECKED BY: [Signature]

Sampler - UPS - Bus - Other:

Corrected Temp. °C: 3.41

Thermometer ID: #149

Correction Factor: +0.3

D40240115

Verbal Result:  Yes  No Add'l Phone #:

All Results are emailed. Please provide Email address: [Email]

REMARKS: Incident: 11/11/2014 14086

Standard  Rush

Bacteria (only) Sample Condition: Cool Intact

Sante Fe Main Office  
Phone: (505) 476-3441

General Information  
Phone: (505) 629-6116

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

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

QUESTIONS

Action 581729

**QUESTIONS**

Operator: XTO ENERGY, INC 3617 North Big Spring Street Midland, TX 79705	OGRID: 5380
	Action Number: 581729
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

**QUESTIONS**

<b>Prerequisites</b>	
Incident ID (n#)	nHMP1413240586
Incident Name	NHMP1413240586 REMUDA BASIN BATTERY UNIT #1 @ 30-015-03691
Incident Type	Produced Water Release
Incident Status	Remediation Plan Approved
Incident Well	[30-015-03691] REMUDA BASIN UNIT #001

<b>Location of Release Source</b>	
<i>Please answer all the questions in this group.</i>	
Site Name	REMUDA BASIN BATTERY UNIT #1
Date Release Discovered	04/27/2014
Surface Owner	State

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

<b>Nature and Volume of Release</b>	
<i>Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.</i>	
Crude Oil Released (bbls) Details	Not answered.
Produced Water Released (bbls) Details	Cause: Equipment Failure   Tank (Any)   Produced Water   Released: 15 BBL   Recovered: 0 BBL   Lost: 15 BBL.
Is the concentration of chloride in the produced water >10,000 mg/l	Yes
Condensate Released (bbls) Details	Not answered.
Natural Gas Vented (Mcf) Details	Not answered.
Natural Gas Flared (Mcf) Details	Not answered.
Other Released Details	Not answered.
Are there additional details for the questions above (i.e. any answer containing Other, Specify, Unknown, and/or Fire, or any negative lost amounts)	Not answered.

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Oil Conservation Division  
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QUESTIONS, Page 2

Action 581729

**QUESTIONS (continued)**

Operator: XTO ENERGY, INC 3617 North Big Spring Street Midland, TX 79705	OGRID: 5380
	Action Number: 581729
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

**QUESTIONS**

<b>Nature and Volume of Release (continued)</b>	
Is this a gas only submission (i.e. only significant Mcf values reported)	<b>No, according to supplied volumes this does not appear to be a "gas only" report.</b>
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	<b>No</b>
Reasons why this would be considered a submission for a notification of a major release	<i>Unavailable.</i>

*With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. gas only) are to be submitted on the C-129 form.*

**Initial Response**

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

The source of the release has been stopped	<b>True</b>
The impacted area has been secured to protect human health and the environment	<b>True</b>
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	<b>True</b>
All free liquids and recoverable materials have been removed and managed appropriately	<b>True</b>
If all the actions described above have not been undertaken, explain why	<i>Not answered.</i>

*Per Paragraph (4) of Subsection B of 19.15.29.8 NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please prepare and attach a narrative of actions to date in the follow-up C-141 submission. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see Subparagraph (a) of Paragraph (5) of Subsection A of 19.15.29.11 NMAC), please prepare and attach all information needed for closure evaluation in the follow-up C-141 submission.*

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.

I hereby agree and sign off to the above statement	Name: Richard Kotzur Title: Senior Project Manager Email: NMEEnvNotifications@exxonmobil.com Date: 05/04/2026
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QUESTIONS, Page 3

Action 581729

**QUESTIONS (continued)**

Operator: XTO ENERGY, INC 3617 North Big Spring Street Midland, TX 79705	OGRID: 5380
	Action Number: 581729
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

**QUESTIONS**

**Site Characterization**  
*Please answer all the questions in this group (only required when seeking remediation plan approval and beyond). 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 in feet below ground surface (ft bgs)	Between 26 and 50 (ft.)
What method was used to determine the depth to ground water	U.S. Geological Survey
Did this release impact groundwater or surface water	No
<b>What is the minimum distance, between the closest lateral extents of the release and the following surface areas:</b>	
A continuously flowing watercourse or any other significant watercourse	Between 200 and 300 (ft.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between ½ and 1 (mi.)
An occupied permanent residence, school, hospital, institution, or church	Greater than 5 (mi.)
A spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes	Between 1 and 5 (mi.)
Any other fresh water well or spring	Between 1 and 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1000 (ft.) and ½ (mi.)
A subsurface mine	Greater than 5 (mi.)
An (non-karst) unstable area	Zero feet, overlying, or within area
Categorize the risk of this well / site being in a karst geology	High
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	Yes

**Remediation Plan**  
*Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.*

Requesting a remediation plan approval with this submission	Yes
<i>Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.</i>	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No

**Soil Contamination Sampling:** (Provide the highest observable value for each, in milligrams per kilograms.)

Chloride (EPA 300.0 or SM4500 Cl B)	9680
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	1044
GRO+DRO (EPA SW-846 Method 8015M)	867
BTEX (EPA SW-846 Method 8021B or 8260B)	0
Benzene (EPA SW-846 Method 8021B or 8260B)	0

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

On what estimated date will the remediation commence	11/17/2020
On what date will (or did) the final sampling or liner inspection occur	03/01/2026
On what date will (or was) the remediation complete(d)	09/17/2025
What is the estimated surface area (in square feet) that will be reclaimed	11000
What is the estimated volume (in cubic yards) that will be reclaimed	4750
What is the estimated surface area (in square feet) that will be remediated	11000
What is the estimated volume (in cubic yards) that will be remediated	4750

*These estimated dates and measurements are recognized to be the best guess or calculation at the time of submission and may (be) change(d) over time as more remediation efforts are completed.*  
*The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.*

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QUESTIONS, Page 4

Action 581729

**QUESTIONS (continued)**

Operator: XTO ENERGY, INC 3617 North Big Spring Street Midland, TX 79705	OGRID: 5380
	Action Number: 581729
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

**QUESTIONS**

**Remediation Plan (continued)**

Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

**This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:**

(Select all answers below that apply.)

(Ex Situ) Excavation and <b>off-site</b> disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for <b>off-site</b> disposal	FEEM0112334510 HALFWAY DISPOSAL AND LANDFILL
<b>OR</b> which OCD approved well (API) will be used for <b>off-site</b> disposal	Not answered.
<b>OR</b> is the <b>off-site</b> disposal site, to be used, out-of-state	No
<b>OR</b> is the <b>off-site</b> disposal site, to be used, an NMED facility	No
(Ex Situ) Excavation and <b>on-site</b> remediation (i.e. On-Site Land Farms)	No
(In Situ) Soil Vapor Extraction	No
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	No
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	No
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	No
Ground Water Abatement pursuant to 19.15.30 NMAC	No
OTHER (Non-listed remedial process)	Yes
Other Non-listed Remedial Process. Please specify	XTO proposes to design a protective system certified by a registered professional engineer to extend the excavation to a depth greater than 20 feet bgs. Chloride impacts will be removed, and confirmation samples will be collected. The excavation will be backfilled with clean, locally purchased material.

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

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

I hereby agree and sign off to the above statement	Name: Richard Kotzur Title: Senior Project Manager Email: NMEnvNotifications@exxonmobil.com Date: 05/04/2026
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The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.

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Action 581729

**QUESTIONS (continued)**

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	Action Number: 581729
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

**QUESTIONS**

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

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Action 581729

**QUESTIONS (continued)**

Operator: XTO ENERGY, INC 3617 North Big Spring Street Midland, TX 79705	OGRID: 5380
	Action Number: 581729
	Action Type: [C-141] Site Char./Remediation Plan C-141 (C-141-v-Plan)

**QUESTIONS**

<b>Sampling Event Information</b>	
Last sampling notification (C-141N) recorded	509013
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	10/03/2025
What was the (estimated) number of samples that were to be gathered	45
What was the sampling surface area in square feet	18000

**Remediation Closure Request**

*Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.*

Requesting a remediation closure approval with this submission	No
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CONDITIONS

Action 581729

**CONDITIONS**

Operator: XTO ENERGY, INC 3617 North Big Spring Street Midland, TX 79705	OGRID: 5380
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**CONDITIONS**

Created By	Condition	Condition Date
michael.buchanan	2026 Revised Remediation Plan as amended is approved.	5/8/2026