ENSOLUM

March 25, 2025

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

Re: Closure Request Addendum
PLU Big Sinks 25 Federal Battery
Incident Number NAB1921742793
Eddy County, New Mexico

To Whom It May Concern:

Ensolum, LLC (Ensolum), on behalf of XTO Energy, Inc. (XTO), has prepared the following *Closure Request Addendum (2025 Addendum)* to the April 14, 2023 *Closure Request Supplement (Supplement*), September 24, 2021 *Closure Request Addendum (2021 Addendum),* June 26, 2020 *Closure Request Addendum (2020 Addendum)* and January 22, 2020 *Closure Request* detailing delineation and remediations activities at the Poker Lake Unit (PLU) Big Sinks 25 Federal Battery (Site). This *2025 Addendum* provides an update to additional Site activities completed at the Site in response to the denial by the New Mexico Oil Conservation Division (NMOCD) of the fourth, previously submitted *Closure Request*. In the denial, NMOCD stated that the release should be accurately defined within 1-2 feet of the mapped extent. Based on the deliniation sampling activities described below, XTO is again requesting no further action (NFA) for Incident Number NAB1921742793.

RELEASE BACKGROUND

The Site is located in Unit O, Section 25, Township 24 South, Range 30 East, in Eddy County, New Mexico (32.181451°, -103.833297°; Figure 1) and is associated with oil and gas exploration and production operations on Federal land managed by the Bureau of Land Management (BLM). The release occurred at the southernmost portion of the pad that is owned by the New Mexico State Land Office (NMSLO). The majority of the impacts were reported on land owned by BLM.

On July 7, 2019, a release occurred from a corrosion hole in a pipeline riser, resulting in the release of approximately 67.65 barrels (bbls) of produced water onto the caliche well pad and onto the adjacent developed right-of-way (ROW). Approximately 55 bbls of produced water were recovered via hydrovac trucks. XTO reported the release to the NMOCD on a Release Notification and Corrective Action Form C-141 (Form C-141) on July 17, 2019. The release was assigned Incident Number NAB1921742793.

In 2019 and 2020, eight preliminary soil samples (SS01 through SS08) were collected from within the release extent from a depth of approximately 0.5 feet below ground surface (bgs) to assess the lateral extent of impacted soil. Potholes PH01 through PH08 were advanced to further assess the vertical extent of impacted soil at preliminary soil sample locations SS01 through SS08. Two delineation soil samples were collected from each pothole at depths ranging from 2 feet to 4 feet bgs. Excavation occurred in the southern area of the release extent, in the developed ROW south of the point of release.

Four sidewall samples (SW01 through SW04) and two floor samples (FS01 and FS02) were collected from the excavation in the ROW. Based on field screening results, visual observations, and laboratory analytical results for preliminary soil sample SS02, excavation activities appeared to be warranted on-pad. Scraping of the pad occurred in the area of preliminary soil sample SS02 and one composite floor sample (FS03) was collected from a depth of approximately 0.5 feet bgs to confirm the presence or absence of impacts. The final excavation extent in the ROW measured approximately 340 square feet in area and reached a depth of 5 feet bgs, and the scraped area on-pad measured approximately 200 square feet in area. A total of approximately 60 cubic yards of impacted soil were removed from the excavations. Laboratory analytical results indicated that chemicals of concern (COCs) were compliant with the Closure Criteria in excavation soil samples so NFA was requested for the release in the January 22, 2020 *Closure Request* that is included as Appendix A.

On March 16, 2020, NMOCD denied the initial *Closure Request* for Incident Number NAB1921742793 for the following reasons:

- *Depth to groundwater is not adequately identified. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided. If evidence of depth to groundwater within a ½ mile radius of the site cannot be provided, impacted soils will need to meet Table 1 Closure Criteria for groundwater at a depth of 50 feet or less.*

- *For the on-pad area, samples are representative of more than 200 square feet. Please collect more confirmation samples, representing no more than 200 square feet, unless XTO chooses to provide a sampling plan for approval prior to conduction additional sampling.*

The *2020 Addendum* was submitted on June 26, 2020, documenting additional excavation sampling and a more detailed justification of depth to groundwater using existing data from water wells in all directions surrounding the Site. Those data indicated depth to groundwater is greater than 400 feet bgs in the region and a potentiometric surface map was provided showing a regional trend of deep groundwater flowing southwest toward the Pecos River. Additional confirmation sampling was conducted such that floor and sidewall samples collected from an on-pad excavation in the ROW and a separate on-pad scraped area represented no more than 200 square feet of remediated area. All confirmation soil samples met the Closure Criteria so NFA was requested. Additional details of this sampling event are summarized in the *2020 Addendum* that is included as Appendix B.

On July 20, 2021, NMOCD denied the *2020 Addendum* for the following reasons:

- *Horizontal delineation submitted was incomplete and did not meet the requirements of 19.15.29.11 NMAC. The values for determination of horizontal impact are derived by either approved "background" values or Table I Closure Criteria for releases where groundwater is at a depth of 50 feet or less. This is especially important for "on-pad" releases to ensure the release did not extend to the "off-pad"/pasture area. A visual footprint on the surface is not sufficient to assess the horizontal extent of the release. Laboratory data must be provided as evidence of delineation efforts. Any sample exceeding approved "background" values or Table I Closure Criteria for releases where groundwater is at a depth of 50 feet or less requires additional samples for horizontal delineation.*

- *The depth to groundwater has not been adequately determined. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be*

provided in the submission. The responsible party may choose to remediate to the most stringent levels listed in Table 1 of 19.15.29 NMAC in lieu of drilling to determine the depth to groundwater.

Following the second denial, additional depth to groundwater determination and horizontal delineation sampling activities were completed at the Site. A dry borehole was drilled 600 feet from the release location. The dry borehole confirmed the depth to groundwater estimate, which had been previously justified using regional water well information. In addition, four delineation samples (SS01 through SS04) were collected at the edge of any disturbed areas, in the pasture to the south and west of the release to confirm the release did not reach these undisturbed areas, as requested. All delineation samples collected at 0.5 feet bgs were compliant with the strictest Table I Closure Criteria, confirming the lateral extent of the release. XTO submitted a second NFA request in the *2021 Addendum* submitted on September 24, 2021 detailing the work and laboratory analytical results. The *2021 Addendum* is included as Appendix C.

On March 14, 2022, NMOCD, denied the *2021 Addendum* stating the following:

- *Inadequate confirmation sampling of impacted material on the edge of the release. The release has not been horizontally delineated. Delineation of edges/sidewalls of a release on-pad requires clean samples equal to or less than 600 mg/kg for chlorides and less than 100 mg/kg for TPH. If the edge of the spill has been visually identified and is on-pad, samples will need to be pulled from the clean side on-pad to prove extent. Once that is accomplished, you can excavate to the table 1 criteria on the pad. This will define the edge of the release and ensure the release did not leave the pad. If the release exited the pad, all sidewalls from the excavation need to meet the strictest criteria standards in the top 4 feet of surface material.*

In response to the denial of the *2021 Addendum*, additional horizontal definition soil samples were collected to confirm the release did not “leave the pad.” Four soil samples (SS01 through SS04) were collected at a depth of 0.2 feet bgs around the south and west edges of the pad to confirm the lateral extent of the release. One additional lateral delineation soil sample (SS05) was collected at 0.5 feet bgs, which was situated to the northeast of the historical release extent. All samples were collected on-pad. Laboratory analytical results for soil samples SS01 through SS05 indicated all COC concentrations were compliant with Closure Criteria and provided lateral delineation to below the most stringent Table I Closure Criteria. For the fourth time, XTO respectfully requested NFA for Incident Number NAB1921742793 in the *Supplement* dated April 14, 2023. The *Supplement* detailing soil sampling conducted in 2022 and 2023 is attached as Appendix D.

On September 19, 2023, the NMOCD denied the *Supplement* for the following reason:

- *The “step-out” samples on pad to verify the edge of the release should only be a maximum of 1-2 feet from the observed edge of the release. Stepping out away from the release area to conduct horizontal delineation samples may tell us whether or not the release left the active well pad, but it does not tell us where the actual edge of the release is located. Please make sure that the edge of the release extent is accurately defined. Additionally, when equipment is located in and around the release area, samples must come from the sidewalls of the release area excavation. The OCD needs to know if the release went in, around, or under equipment/tanks/pipelines. Not having sidewall samples from the actual excavation won’t give us those sampling data points that we need. “Step-out” samples should never be conducted if equipment is in the vicinity of the release area.*

CLOSURE CRITERIA

Based on the results of the Site Characterization presented in the *2021 Addendum*, the following NMOCD Table I Closure Criteria were applied:

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

In accordance with the denial of the *2021 Addendum*, a reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH applies to the top 4 feet of areas to be immediately reclaimed. Additionally, impacts on-pad must be delineated to the reclamation requirement, per 19.15.29.13.D (1) NMAC for the top 4 feet of areas that will be reclaimed following Site decommissioning.

NMSLO CULTURAL RESOURCES AND BIOLOGICAL REVIEW

Cultural Properties Protection

Since the release occurred on the well pad and ROW, the site is exempt from the Cultural Properties Protection Rule (CPP). As such, no additional cultural resource surveys were completed in connection with this release.

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 within the historical range of the Lesser Prairie-Chicken habitat, and the southern extent of the pad is within the Current Management Area of the Lesser Prairie-Chicken habitat. From March 1 through June 15, no remediation activities will occur between the hours of 3 am to 9 am to protect any Lesser Prairie-Chickens within the area.
- 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.
- No environmentally sensitive receptors were located near the Site, as determined by the Site Characterization.
- The Natural Resources Conservation Service (NRCS) Web Soil Survey classifies the soil type at the Site as Berino complex, which is not classified as a sensitive soil.

ADDITIONAL DELINEATION AND RESAMPLING SOIL ACTIVITIES

Following the denial of the *Supplement*, previous delineation and excavation soil sampling results were reviewed to determine areas where waste-containing soil was not fully defined to the reclamation requirement of 600 mg/kg chloride and 100 mg/kg TPH that applies to the top 4 feet of soil. Lateral delineation to the reclamation requirement for chloride was needed at previous sampling locations SW01

through SW03 collected from the ROW excavation. Vertical delineation of chloride to the reclamation requirement was necessary below previous sampling locations PH03 through PH05, PH07 and PH08.

From December 4 through December 9, 2024, additional soil sampling activities occurred at the Site in order to determine current impacts as a result of the 2019 produced water release. Five-point composite soil samples were collected at least every 200 square feet within the release extent. Forty composite soil samples (CS01 through CS40) were collected at a depth of 0.5 feet bgs across the estimated 7,550 square foot release extent. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing.

Previous sampling locations PH03 through PH05, PH07 and PH08 located within the release extent were advanced via a backhoe to 4 feet bgs, and a discrete sample was collected from 4 feet bgs to vertically delineate chloride impacts to reclamation requirements. Sampling locations PH09 through PH14 were potholed using a backhoe to depths ranging from 2 feet to 4 feet bgs surrounding the release extent as allowable at the active Site to accurately define the extent of impacts at the Site. BH01 was advanced via hand auger in the southwest corner of the pad to a depth of 4 feet bgs. Discrete soil samples were collected at depths of 0.5 feet and 2 feet bgs from PH09. Discrete samples were collected at depths of 0.5 feet and 4 feet bgs from PH10 through PH14 and BH01. Boring logs for BH01, PH03 through PH05, and PH09 through PH14 are attached in Appendix E.

Composite excavation sidewall sampling locations SW01 through SW03 were resampled using a hand auger at depths ranging from ground surface to 4 feet bgs to determine if chloride impacts above the reclamation requirement were still present more than 5 years after the release. The 5-point composite samples were collected using the above-described methodology.

Soil was field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips. The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported under strict chain-of-custody procedures to Cardinal Laboratories (Cardinal) in Hobbs, New Mexico, for analysis of the following COCs: BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH- DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

The soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit. The delineation soil sampling locations are depicted on Figure 2, and the excavation soil resample locations are illustrated on Figure 3. A photographic log of sampling activities is included as Appendix F.

ADDITIONAL EXCAVATION AND CONFIRMATION SAMPLING ACTIVITIES

On January 23, 2025, approximately 100 square feet surrounding CS06 were excavated to 4 feet bgs utilizing a backhoe to remove waste-containing soil impacts. Following excavation activities, two 5-point composite soil samples were collected from the floor (FS06) and sidewall (SW05). Soil samples were field screened, submitted for laboratory analysis, and mapped using methods described above. Figure 3 illustrates the excavation extents, excavation soil sample locations, and subsurface utilities at the Site.

Due to the presence of numerous subsurface utilities observed while potholing, XTO determined that due to safety reasons, further remediation of waste-containing soil on-pad will be completed following Site decommissioning during reclamation activities.

Approximately 20 cubic yards of impacted soil were removed from the 2025 excavation. The impacted soil was transported and properly disposed of at the Owl landfill facility located in Jal, New Mexico. The excavation was backfilled in February 2025 using locally procured material, and the Site was recontoured to match pre-existing site conditions. Photographic documentation of excavation activities are included in Appendix F.

LABORATORY ANALYTICAL RESULTS

Following excavation and sampling activities, laboratory analytical results confirm that impacted soil exceeding Closure Criteria was removed and waste-containing soil was fully defined to the reclamation requirement as requested by NMOCD in the denial responses. The current and historical laboratory analytical results are summarized on Table 1, and the 2024 and 2025 laboratory analytical reports are included in Appendix G.

CLOSURE REQUEST

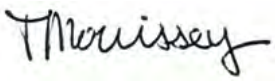
Soil delineation sampling, excavation activities, and confirmation sampling were conducted at the Site to address the July 7, 2019 release of produced water. Following excavation, laboratory analytical results from delineation and confirmation sampling indicate that all COC concentrations were in compliance with the Closure Criteria and waste-containing soil were fully defined to the reclamation standard in the top 4 feet of soil.

Due to the presence of multiple utilities at the active Site, the release was remediated on-pad to Closure Criteria for safety reasons. Following the delineation and excavation activities conducted in 2025, approximately 6,650 square feet of waste-containing soil was delineated within the top 4 feet of soil and present at sample locations CS01 through CS05, CS07 through CS18, CS19 through CS32, CS34 through CS39, and PH01 through PH08. Following Site decommissioning, an estimated 985 cubic yards of waste-containing soil will be reclaimed. The presence of the waste-containing soil present on-pad does not cause an imminent risk to human health, the environment, or groundwater. XTO will reclaim this soil reporting COC concentrations exceeding reclamation requirement but below Closure Criteria during final Site reclamation.

Excavation of impacted soil has mitigated impacts at this Site. Depth to groundwater has been determined to be greater than 100 feet bgs, and no other sensitive receptors were identified near the release extent. XTO believes these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests closure for Incident Number NAB1921742793.
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.
Senior Managing Geologist



Tacoma Morrissey, MS
Associate Principal

cc: Colton Brown, XTO
Kaylan Dirkx, XTO

Bureau of Land Management
New Mexico State Land Office

Appendices:

Figure 1	Site Location Map
Figure 2	Delineation Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Table 1	Soil Sample Analytical Results
Appendix A	January 22, 2020 *Closure Request*
Appendix B	June 26, 2020 *Closure Request Addendum*
Appendix C	September 24, 2021 *Closure Request Addendum*
Appendix D	April 14, 2023 *Closure Request Supplement*
Appendix E	Boring Logs (2024)
Appendix F	Photographic Log (2024 & 2025)
Appendix G	Laboratory Analytical Reports (2024 & 2025)

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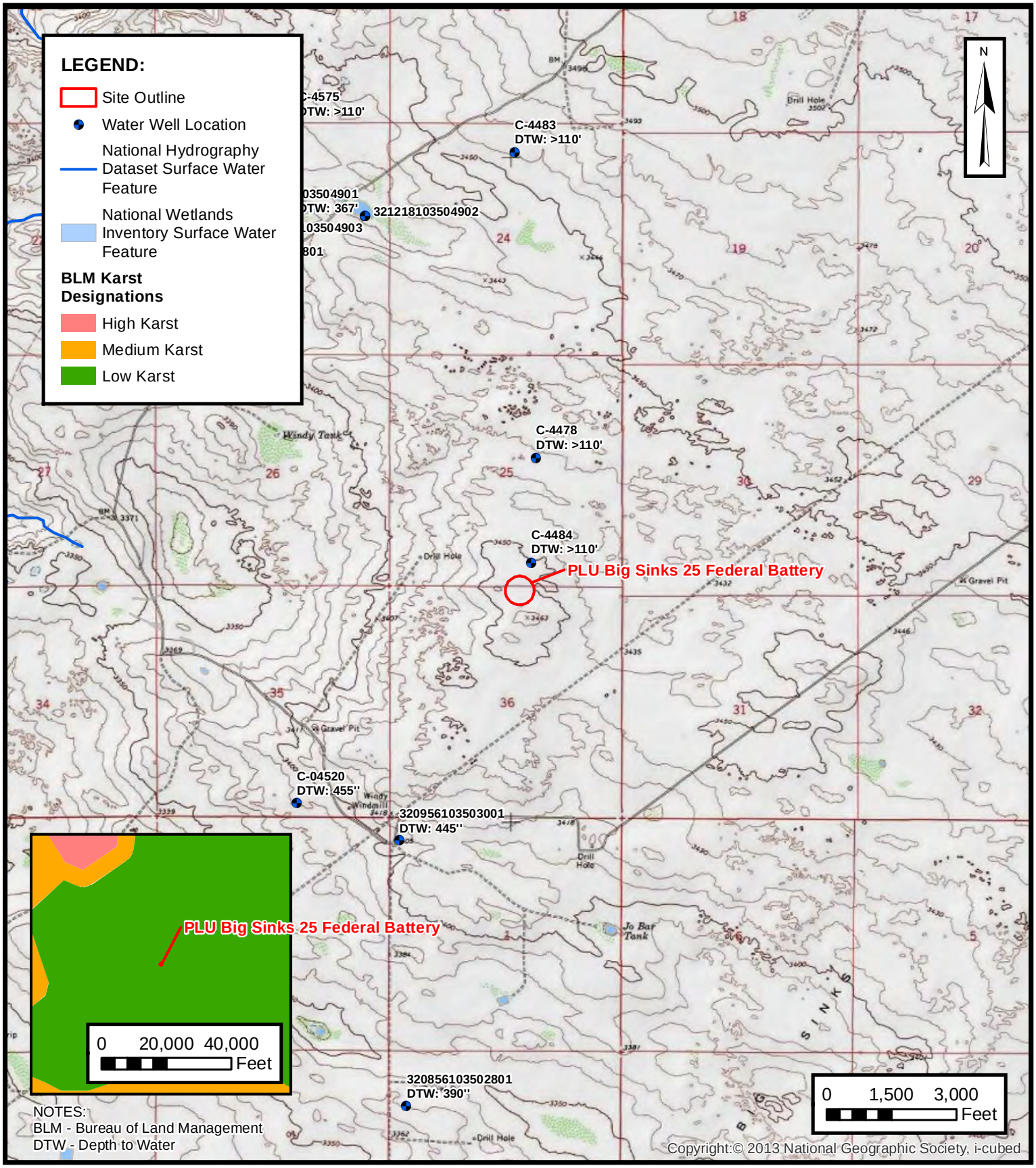
FIGURES



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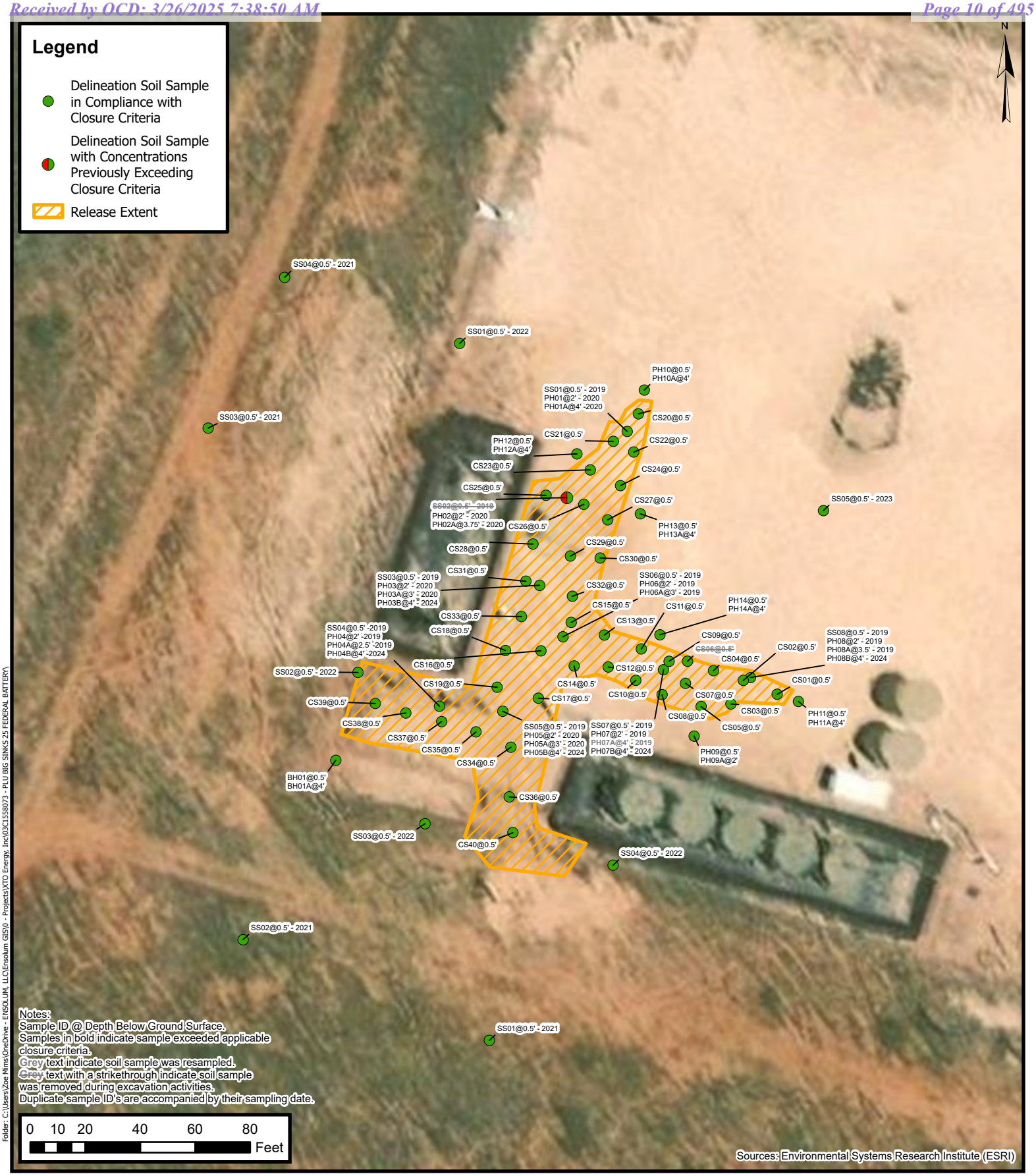
SITE RECEPTOR MAP

XTO ENERGY, INC
PLU BIG SINKS 25 FEDERAL BATTERY
NAB1921742793
Unit O, Sec 25, T24S, R30E
Eddy County, New Mexico

FIGURE

1



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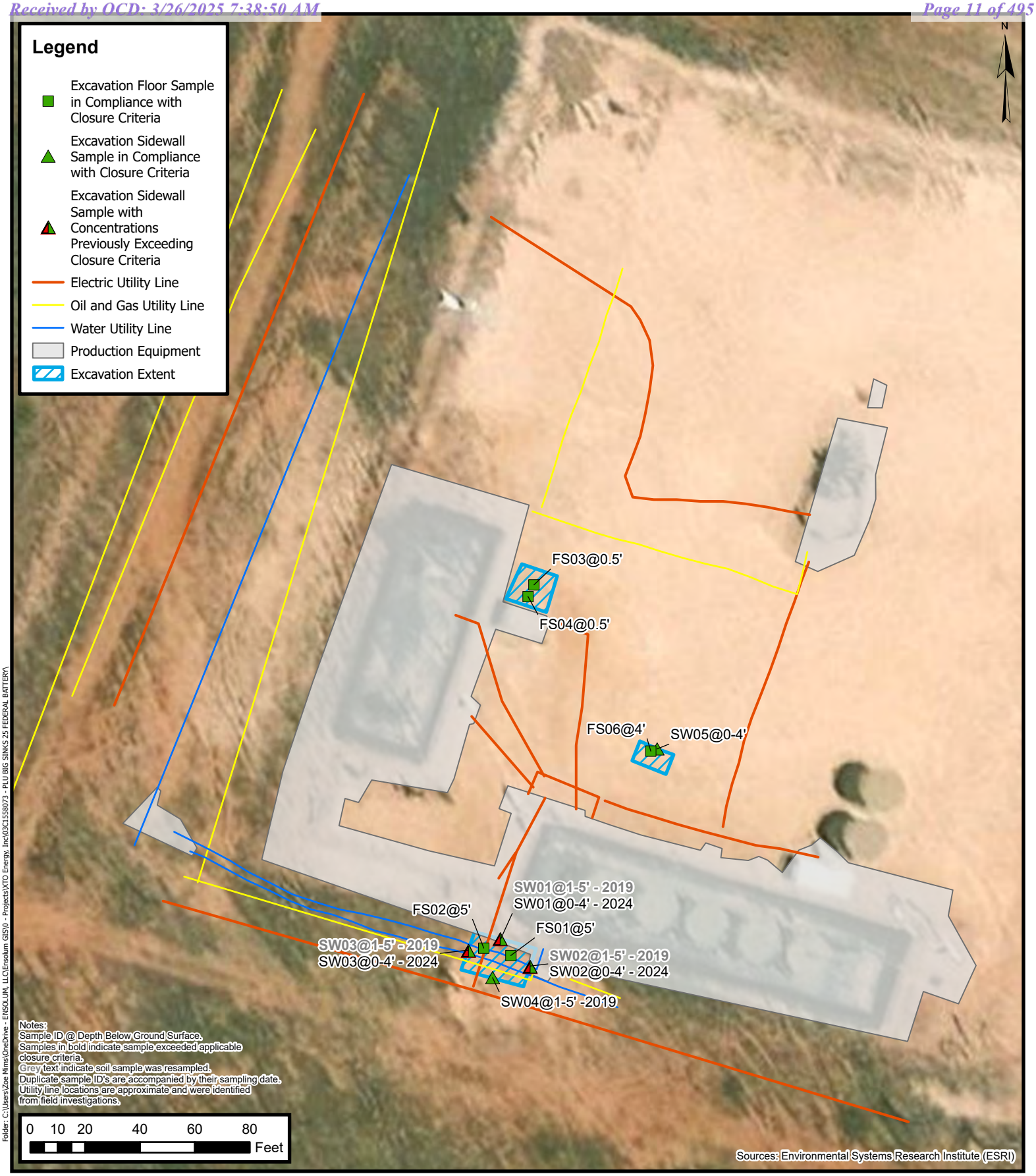
Delineation Soil Sample Locations

XTO Energy, Inc
PLU BIG SINKS 25 FEDERAL BATTERY
Incident Number: NAB1921742793 (2RP-5551)
Unit B, Section 36, T 24S, R 30E
Eddy County, New Mexico

FIGURE 2



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Environmental, Engineering and Hydrogeologic Consultants

Excavation Soil Sample Locations

XTO Energy, Inc
PLU BIG SINKS 25 FEDERAL BATTERY
Incident Number: NAB1921742793 (2RP-5551)
Unit B, Section 36, T 24S, R 30E
Eddy County, New Mexico

FIGURE 3

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TABLE

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU Big Sinks 25 Federal Battery
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	1,000	2,500	20,000
Delineation Soil Samples										
SS01	7/9/2019	0.5	<0.00197	<0.00197	<15.0	26.9	<15.0	26.9	26.9	12,700
PH01	1/9/2020	2	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	283
PH01A	1/9/2020	4	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	195
~~SS02~~	~~7/9/2019~~	~~0.5~~	~~<0.00200~~	~~<0.00200~~	~~17.3~~	~~1,210~~	~~90.1~~	~~**1,230**~~	~~1,320~~	~~7,800~~
PH02	1/9/2020	2	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	1,960
PH02A	1/9/2020	3.75	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	<50.2	544
SS03	7/9/2019	0.5	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	9,500
PH03	1/9/2020	2	<0.00198	<0.00198	<50.1	<50.1	<50.1	<50.1	<50.1	1,300
PH03A	1/9/2020	3	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	2,250
PH03B	12/06/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
SS04	7/9/2019	0.5	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	11,100
PH04	12/20/2019	2	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	6,740
PH04A	12/20/2019	2.5	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	5,460
PH04B	12/06/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
SS05	7/9/2019	0.5	<0.00196	<0.00196	<15.0	<15.0	<15.0	<15.0	<15.0	9,840
PH05	1/9/2020	2	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	<50.2	3,000
PH05A	1/9/2020	3	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	1,790
PH05B	12/06/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
SS06	7/9/2019	0.5	<0.00200	0.0392	<15.0	43.3	<15.0	43.3	43.3	14,600
PH06	12/20/2019	2	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	932
PH06A	12/20/2019	3	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	567
SS07	7/9/2019	0.5	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<14.9	11,100
PH07	12/20/2019	2	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	903
PH07A	12/20/2019	4	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	1,360
PH07B	12/05/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SS08	7/9/2019	0.5	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	9,840
PH08	12/20/2019	2	<0.00199	<0.00199	<50.1	<50.1	<50.1	<50.1	<50.1	1,190
PH08A	12/20/2019	3.5	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	1,270
PH08B	12/05/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
PH09	12/05/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
PH09A	12/05/2024	2	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176

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TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU Big Sinks 25 Federal Battery
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	1,000	2,500	20,000
PH10	12/05/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	208
PH10A	12/05/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	224
PH11	12/05/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	336
PH11A	12/05/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	80.0
PH12	12/05/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	320
PH12A	12/05/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
PH13	12/05/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	448
PH13A	12/05/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
PH14	12/06/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	192
PH14A	12/06/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
BH01	12/06/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	96.0
BH01A	12/06/2024	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
SS01	8/12/2021	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	21.9
SS02	8/12/2021	0.5	<0.00200	<0.00400	<49.8	<49.8	<49.8	<49.8	<49.8	24.0
SS03	8/12/2021	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	60.6
SS04	8/12/2021	0.5	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	24.3
SS01	7/28/2022	0.2	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	180
SS02	7/28/2022	0.2	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	40.5
SS03	7/28/2022	0.2	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	57.8
SS04	7/28/2022	0.2	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	51.1
SS05	3/2/2023	0.5	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	273
CS01	12/4/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,090
CS02	12/4/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,840
CS03	12/4/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,160
CS04	12/4/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,920
CS05	12/4/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,800
~~CS06~~	~~12/4/2024~~	~~0.5~~	~~<0.050~~	~~<0.300~~	~~<10.0~~	~~<10.0~~	~~<10.0~~	~~<10.0~~	~~<10.0~~	~~3,200~~
CS07	12/4/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,800
CS08	12/4/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	2,960
CS09	12/4/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,640
CS10	12/4/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,880
CS11	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,000
CS12	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,000

ENSOLUM

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU Big Sinks 25 Federal Battery
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	1,000	2,500	20,000
CS13	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,080
CS14	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,360
CS15	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,240
CS16	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,520
CS17	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,480
CS18	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	576
CS19	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,160
CS20	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	960
CS21	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,620
CS22	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,250
CS23	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	768
CS24	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	896
CS25	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,600
CS26	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	832
CS27	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	992
CS28	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,020
CS29	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	912
CS30	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,080
CS31	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,710
CS32	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	608
CS33	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	400
CS34	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,200
CS35	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,760
CS36	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	4,960
CS37	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,000
CS38	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,240
CS39	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,040
CS40	12/9/2024	0.5	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	64.0
Excavation Soil Samples										
FS01	10/22/2019	5	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	96.6
FS02	10/22/2019	5	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	1,000

ENSOLUM

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
PLU Big Sinks 25 Federal Battery
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**	**1,000**	**2,500**	**20,000**
SW01	10/22/2019	1 - 5	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	**4,430**
SW01	12/06/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	176
SW02	10/22/2019	1 - 5	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	**633**
SW02	12/06/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SW03	10/22/2019	1 - 5	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	**1,030**
SW03	12/06/2024	0 - 4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	48.0
SW04	10/22/2019	1 - 5	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	572
FS03	1/17/2020	0.5	<0.00198	<0.00198	<50.1	<50.1	<50.1	<50.1	<50.1	3,430
FS04	5/12/2020	0.5	<0.00202	<0.00202	<50.1	<50.1	<50.1	<50.1	<50.1	613
FS06	1/23/2025	4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	3,360
SW05	1/23/2025	0-4	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	1,600

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 standard where applicable.

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

~~Grey~~ text indicates soil sample removed during excavation activities

Grey text indicates soil location resampled

ENSOLUM

APPENDIX A

January 22, 2020
Closure Request

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NAB1921742793
District RP	2RP-5551
Facility ID	
Application ID	pAB1921742256

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # *(assigned by OCD)* NAB1921742793
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.181450° Longitude -103.833297°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU Big Sinks 25 Federal Battery	Site Type Bulk Storage and Separation Facility
Date Release Discovered 7/7/2019	API# *(if applicable)* 30-015-39018 (PLU CVX JV BS 5H)

Unit Letter	Section	Township	Range	County
O	25	24S	30E	Eddy

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (*Name:* State (Release flows onto BLM Surface))

** Legal description lists as a Federal Surface Owner

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 67.65	Volume Recovered (bbls) 55
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

A hole developed in a line riser due to corrosion at the south side of the tank battery. Fluids were released to the well pad and to a small area of ROW near the source. A vacuum truck recovered free fluids from the ground surface. The line was isolated. The damaged section of riser was removed and scheduled for repair. Additional third party resources have been retained to assist with remediation.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NAB1921742793
District RP	2RP-5551
Facility ID	
Application ID	pAB1921742256

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? An unauthorized release of a volume of 25 barrels or more

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Notice provided by Amy Ruth to Mike Bratcher, Rob Hamlet, Victoria Venegas, and Jim Griswold (NMOCD), Jim Amos and Deborah McKinney (BLM), and Ryan Mann (SLO) on 7/7/2019 by email

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.
☒ The impacted area has been secured to protect human health and the environment.
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:
N/A

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: Kyle Littrell
Title: SH&E Supervisor
Signature:
Date: 7/17/2019
email: Kyle_Littrell@xtoenergy.com
Telephone: 432-221-7331

OCD Only

Received by: Amalia Bustamante
Date: 8/5/2019

State of New Mexico
Oil Conservation Division

Incident ID	NAB1921742793
District RP	2RP-5551
Facility ID	
Application ID	pAB1921742256

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?	>100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ 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)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ 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?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	NAB1921742793
District RP	2RP-5551
Facility ID	
Application ID	pAB1921742256

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: 01/22/2020

email: Kyle_Littrell@xtoenergy.com Telephone: (432)-221-7331

OCD Only

Received by: Cristina Eads Date: 03/16/2020

State of New Mexico
Oil Conservation Division

Incident ID	NAB1921742793
District RP	2RP-5551
Facility ID	
Application ID	pAB1921742256

Closure

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

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

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 01/22/2020

email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: Cristina Eads Date: 03/16/2020

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

Closure Approved by: Denied Date: 03/16/2020

Printed Name: Cristina Eads Title: Environmental Specialist

LT Environmental, Inc.
3300 North "A" Street
Building 1, Unit 222
Midland, Texas 79705
432.704.5178

January 22, 2020

Mr. Mike Bratcher
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210

RE: Closure Request
Poker Lake Unit Big Sinks 25 Federal Battery
Remediation Permit Number 2RP-5551
Incident Number NAB1921742793
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request detailing site assessment, excavation, and soil sampling activities at the Poker Lake Unit (PLU) Big Sinks 25 Federal Battery (Site) located in Unit O, Section 25, Township 24 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment, excavation, and soil sampling activities was to address impacts to soil following a release of produced water at the Site. Based on the results of the soil sampling events, XTO is submitting this Closure Request and requesting no further action (NFA) for Remediation Permit (RP) Number 2RP-5551.

RELEASE BACKGROUND

On July 7, 2019, a hole developed in a line riser due to corrosion at the south side of the tank battery, resulting in the release of 67.65 barrels (bbls) of produced water onto the caliche well pad and onto the adjacent developed right-of-way (ROW). The point of release is located on state-owned land and the release flowed north onto federally-owned land. A vacuum truck was dispatched to the Site to recover freestanding fluids and approximately 55 bbls of produced water were recovered. The damaged section of the riser was removed for repair. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 (Form C-141) on July 17, 2019 and was assigned RP Number 2RP-5551.

SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The nearest permitted groundwater

well with depth to groundwater data is the New Mexico Office of State Engineers (NMOSE) well C 03716 located approximately 1.33 miles southwest of the Site (Figure 1). NMOSE wells C 03894, C 03558, and C 03702 are closer to the Site, however, these wells were not used because depth to groundwater data was unavailable. The NMOSE well C 03716 has a depth to groundwater of 425 feet bgs and a total depth of 600 feet bgs. Ground surface elevation at the groundwater well location is 3,405 feet above mean sea level (amsl), which is approximately 54 feet lower in elevation than the Site. The closest continuously-flowing water or significant watercourse to the Site is a freshwater emergent wetland located approximately 1.23 miles northwest 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 greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is located in a low 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)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

SITE ASSESSMENT, EXCAVATION, AND DELINEATION ACTIVITIES

On July 9, 2019, LTE personnel inspected the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. LTE personnel collected eight preliminary soil samples (SS01 through SS08) from within the release extent from a depth of approximately 0.5 feet bgs to assess the lateral extent of impacted soil. Soil from the preliminary soil samples was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2. Photographic documentation was conducted during excavation activities. Photographs are included in Attachment 1.

The preliminary 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 Carlsbad, New Mexico, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, TPH-oil range organics (ORO) following EPA Method 8015M/D, and chloride following EPA Method 300.0.

Based on field screening results, visual observations, and laboratory analytical results for preliminary soil sample SS02, excavation activities appeared to be warranted. Laboratory analytical results for the preliminary soil samples are presented on Figure 2 and summarized in Table 1.

On October 22, 2019, LTE personnel oversaw excavation of impacted soil based on visual staining. Excavation occurred in the southern area of the release extent, in the developed ROW south of the point of release, via track-mounted backhoe. To direct excavation activities, LTE screened soil for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively. The extent of the excavation is presented on Figure 3. Following removal of impacted soil, LTE collected 5-point composite soil samples every 200 square feet from the sidewalls and floor of the excavation. Four sidewall samples (SW01 through SW04) and two floor samples (FS01 and FS02) were collected. The 5-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. The excavation soil samples were collected, handled, and analyzed as described above at Xenco in Carlsbad, New Mexico. The excavation extent and excavation soil sample locations are depicted on Figure 3.

On December 20, 2019, and January 9, 2020, LTE personnel returned to the Site to oversee additional soil assessment activities on pad. Eight delineation potholes were advanced at preliminary soil sample locations SS01 through SS08 via track-mounted backhoe. Potholes PH01 through PH08 were advanced to depths of approximately three feet to four feet bgs to further assess the lateral extent of impacted soil. Two delineation soil samples were collected from each potholes at depths ranging from two feet to four feet bgs. Soil from the potholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated PID and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for each pothole were documented on lithologic/soil sampling logs and are included as Attachment 2. The delineation soil samples were collected, handled, and analyzed as described above at Xenco in Carlsbad, New Mexico. The potholes were backfilled with the soil removed. The delineation soil sample locations are depicted on Figure 4.

Additionally, LTE personnel oversaw the scraping of the pad in the area of preliminary soil sample SS02 via a track-mounted backhoe on January 17, 2020. One composite floor sample (FS03) was collected from the scraped area from a depth of approximately 0.5 feet bgs to confirm the presence or absence of impacts. The 5-point composite sample was collected by depositing five aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the sample by thoroughly mixing. The excavation soil sample was collected, handled, and analyzed as described above at

Xenco in Carlsbad, New Mexico. The scraped area and soil sample location are depicted on Figure 3.

The final excavation extent in the ROW measured approximately 340 square feet in area and the scraped area on pad measured approximately 200 square feet in area. A total of approximately 60 cubic yards of impacted soil were removed from the excavation. The impacted soil was transported and properly disposed of at the R360 landfill facility located in Hobbs, New Mexico.

ANALYTICAL RESULTS

Field screening results and visual observations indicated that excavation activities appeared to be warranted in the southern area of the release extent, south of the point of release. Laboratory analytical results indicated that benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in preliminary soil samples SS01 and SS03 through SS08. Laboratory analytical results for preliminary soil sample SS02 indicated that TPH-GRO and TPH-DRO concentrations exceeded the Closure Criteria, with a concentration of 1,230 mg/kg.

Following the excavation and scraping of impacted soil, LTE collected confirmation soil samples within the excavation extent and scraped area. Laboratory analytical results indicated that benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in excavation soil samples SW01 through SW04 and FS01 through FS03. Laboratory analytical results are summarized in Table 1. The complete laboratory analytical reports are included as Attachment 3.

CONCLUSIONS

During site assessment activities, soil in the southern area of the release extent, south of the point of release, was determined to be impacted based on visual observations and field screening results. Additionally, preliminary soil sample SS02 was collected from within the release extent at a depth of 0.5 feet bgs to assess the presence or absence of impacted soil. Laboratory analytical results indicated that TPH-GRO and TPH-DRO concentrations exceeded the Closure Criteria.

Soil in the southern area of the release extent was removed to a depth of approximately five feet bgs. Surficial soil in the area of preliminary soil sample SS02 was scraped. Following the remediation activities in these areas, LTE collected confirmation soil samples at depths ranging from approximately 0.5 foot to five feet bgs. Laboratory analytical results indicated that benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in excavation soil samples SW01 through SW03 and FS01 through FS03.

Initial response effort and excavation activities have mitigated impacts at this Site. XTO requests NFA for RP Number 2RP-5551.

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

Sincerely,

LT ENVIRONMENTAL, INC.

Carol Ann Whaley
Staff Geologist

Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Ryann Mann – State Land Office
U.S. Bureau of Land Management – New Mexico Office
Robert Hamlet, NMOCD
Victoria Venegas, NMOCD

Appendices:

Figure 1	Site Location Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Figure 4	Delineation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Photographic Log
Attachment 2	Lithologic/Soil Sampling Logs
Attachment 3	Laboratory Analytical Reports

FIGURES

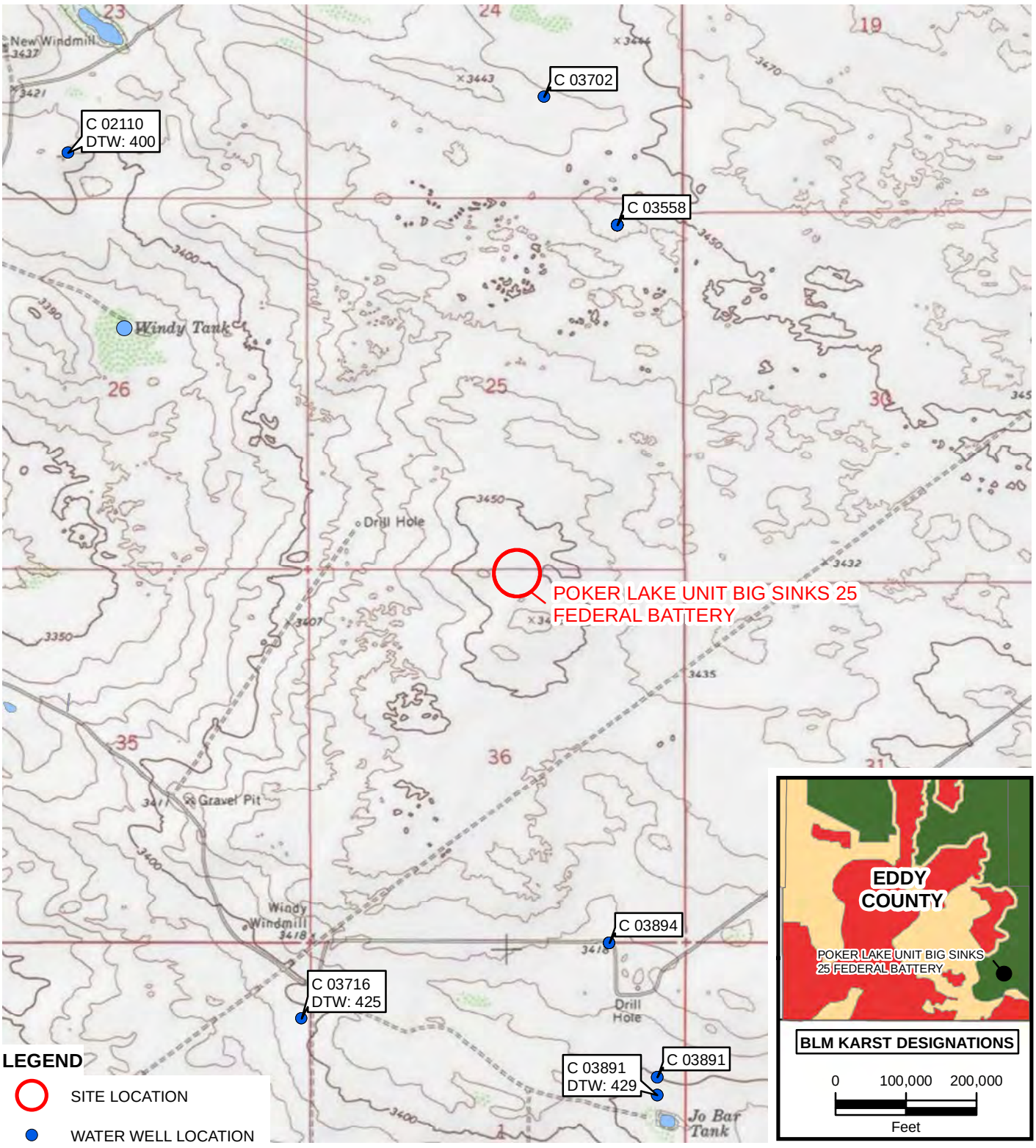


FIGURE 2
SITE LOCATION MAP
POKER LAKE UNIT BIG SINKS 25 FEDERAL BATTERY
UNIT O SEC 25 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919149_PLU BIG SINKS 25 FEDERAL BATTERY (2RP-5551)\012919149_FIG01_SL_5551.mxd

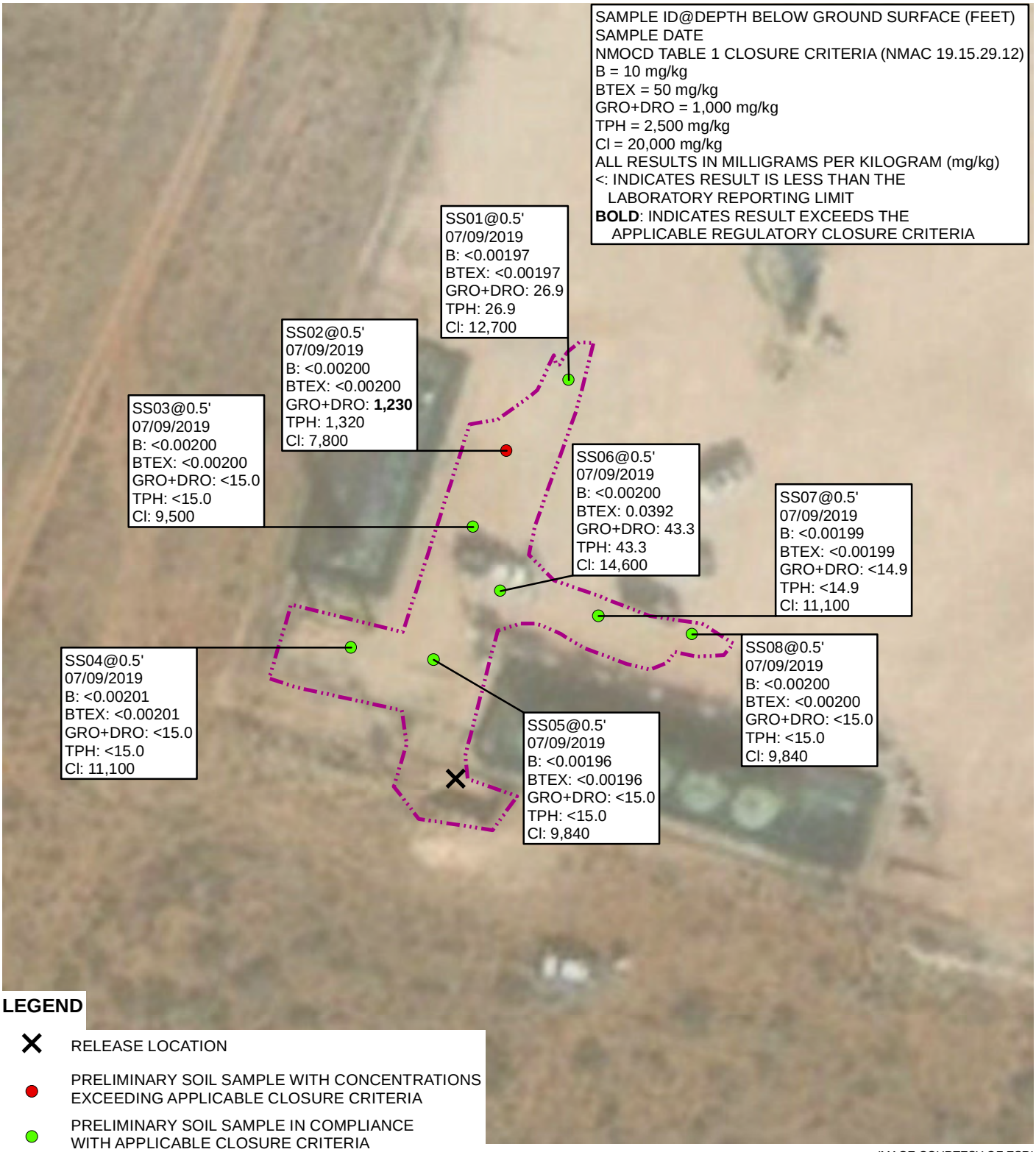
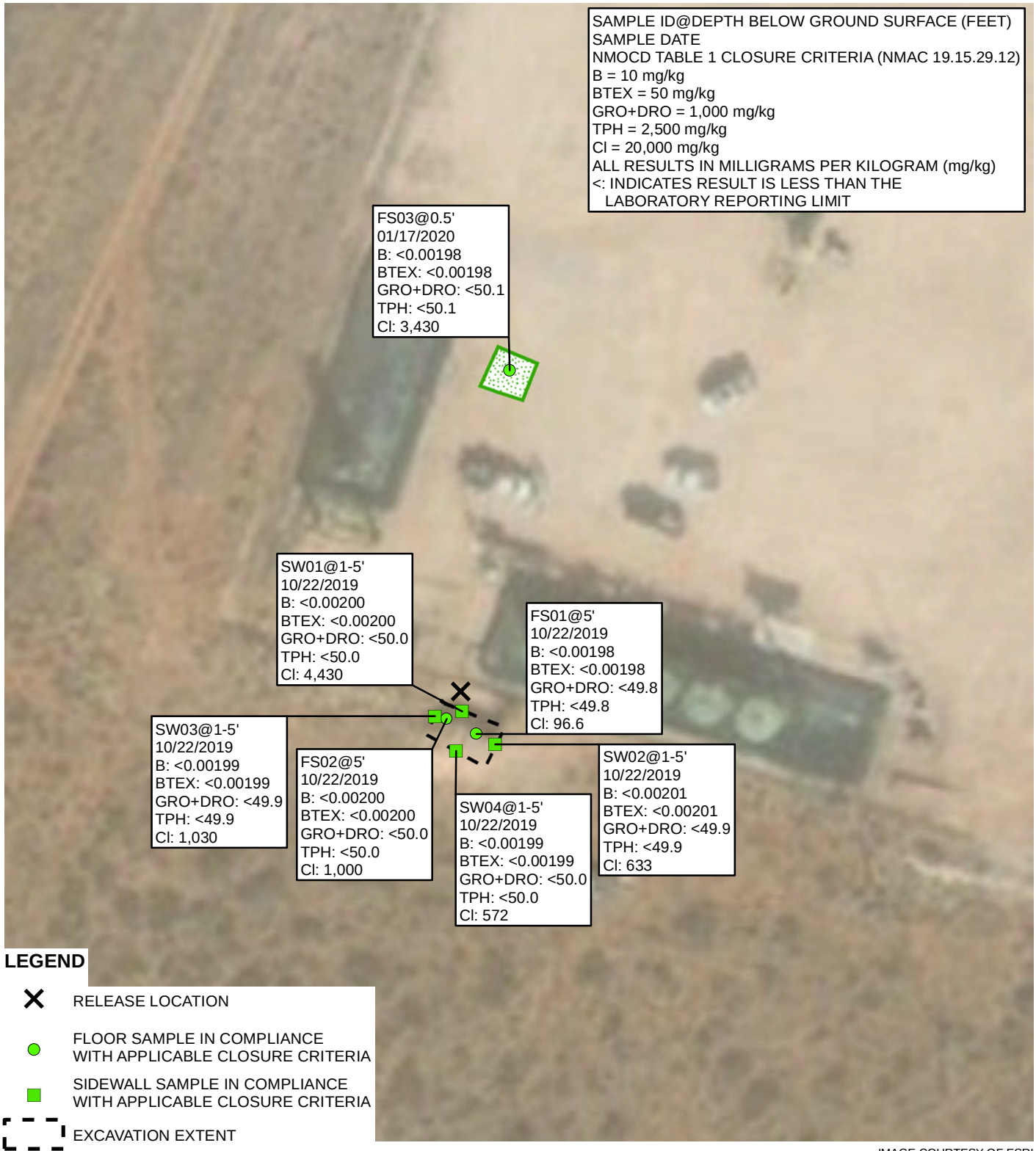


FIGURE 2
PRELIMINARY SOIL SAMPLE LOCATIONS
POKER LAKE UNIT BIG SINKS 25 FEDERAL BATTERY
UNIT O SEC 25 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

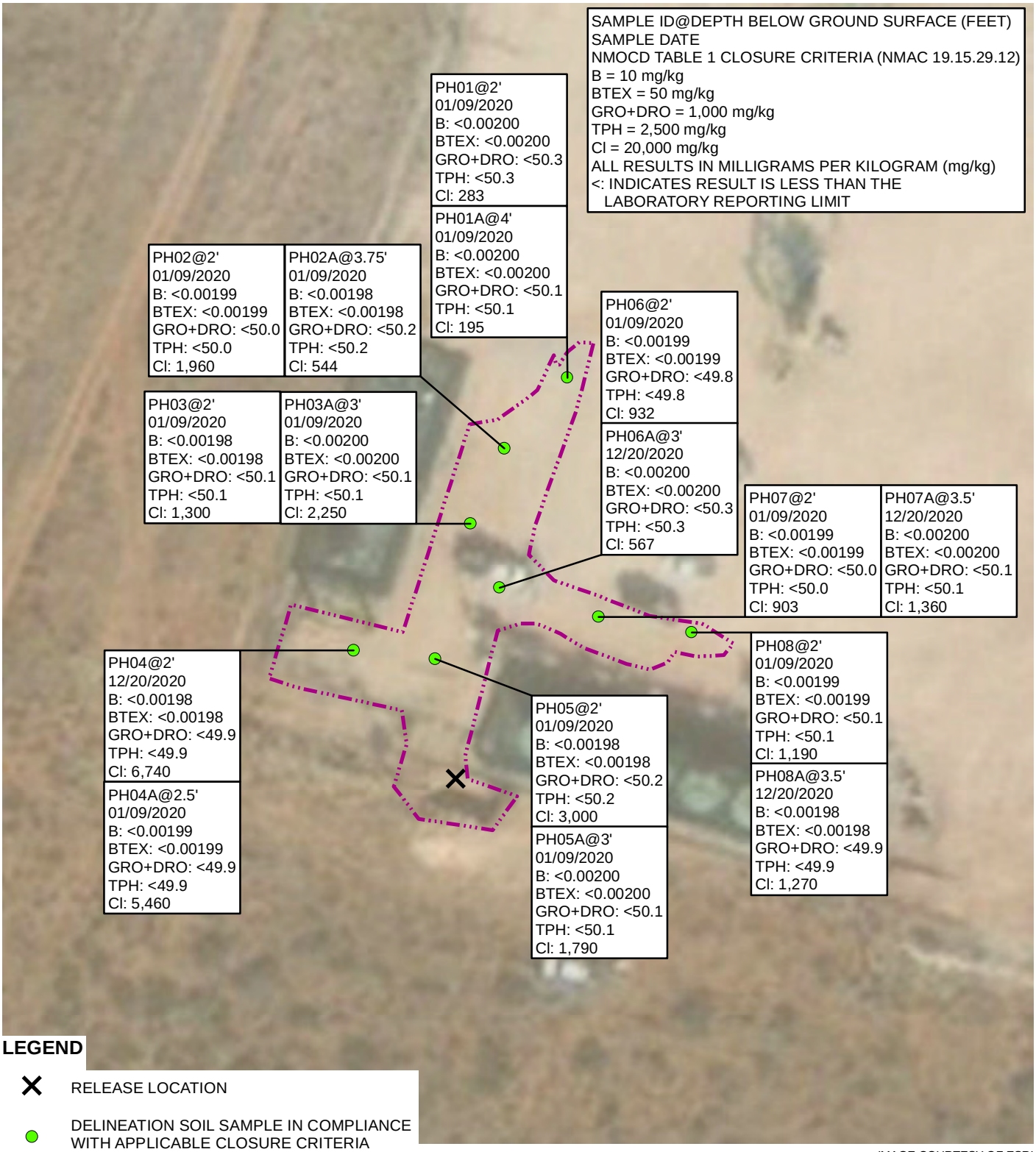
P:\XTO Energy\GIS\MXD\012919149_PLU BIG SINKS 25 FEDERAL BATTERY (2RP-5551)\012919149_FIG02_PRELIMINARY_5551.mxd



B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 2RP-5551

FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
POKER LAKE UNIT BIG SINKS 25 FEDERAL BATTERY
UNIT O SEC 25 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919149_PLU BIG SINKS 25 FEDERAL BATTERY (2RP-5551)\012919149_FIG04_EXCAVATION_5551_1.mxd



B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 2RP-5551

FIGURE 4
DELINEATION SOIL SAMPLE LOCATIONS
POKER LAKE UNIT BIG SINKS 25 FEDERAL BATTERY
UNIT O SEC 25 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GISMXD\012919149_PLU BIG SINKS 25 FEDERAL BATTERY (2RP-5551)\012919149_FIG03_DELINEATION_5551.mxd

TABLE

TABLE 1
SOIL ANALYTICAL RESULTS

POKER LAKE UNIT BIG SINKS 25 FEDERAL BATTERY
REMEDIATION PERMIT NUMBER 2RP-5551
EDDY COUNTY, 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)
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**
SS01	0.5	07/09/2019	<0.00197	<0.00197	<0.00197	<0.00197	<0.00197	<15.0	26.9	<15.0	26.9	26.9	12,700
SS02	0.5	07/09/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	17.3	1,210	90.1	**1,230**	1,320	7,800
SS03	0.5	07/09/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	9,500
SS04	0.5	07/09/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	11,100
SS05	0.5	07/09/2019	<0.00196	<0.00196	<0.00196	<0.00196	<0.00196	<15.0	<15.0	<15.0	<15.0	<15.0	9,840
SS06	0.5	07/09/2019	<0.00200	0.0160	0.00480	0.0184	0.0392	<15.0	43.3	<15.0	43.3	43.3	14,600
SS07	0.5	07/09/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<14.9	11,100
SS08	0.5	07/09/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	9,840
FS01	5	10/22/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	96.6
FS02	5	10/22/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	1,000
FS03	0.5	01/17/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.1	<50.1	<50.1	<50.1	<50.1	3,430
SW01	1 - 5	10/22/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	4,430
SW02	1 - 5	10/22/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	633
SW03	1 - 5	10/22/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	1,030
SW04	1 - 5	10/22/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	572
PH01	2	01/09/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	283
PH01A	4	01/09/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	195
PH02	2	01/09/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	1,960
PH02A	3.75	01/09/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	<50.2	544
PH03	2	01/09/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.1	<50.1	<50.1	<50.1	<50.1	1,300
PH03A	3	01/09/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	2,250
PH04	2	12/20/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	6,740
PH04A	2.5	12/20/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	5,460
PH05	2	01/09/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	<50.2	3,000
PH05A	3	01/09/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	1,790

TABLE 1
SOIL ANALYTICAL RESULTS

POKER LAKE UNIT BIG SINKS 25 FEDERAL BATTERY
REMEDIATION PERMIT NUMBER 2RP-5551
EDDY COUNTY, 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)
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**
PH06	2	12/20/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	932
PH06A	3	12/20/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	567
PH07	2	12/20/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	903
PH07A	3.5	12/20/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	1,360
PH08	2	12/20/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.1	<50.1	<50.1	<50.1	<50.1	1,190
PH08A	3.5	12/20/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	1,270

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
MRO - 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

ATTACHMENT 1: PHOTOGRAPHIC LOG

View of surficial soil staining in the southern area of the release extent, south of the point of release, during site assessment activities.

Project: 012919149	XTO Energy, Inc. Poker Lake Unit Big Sinks 25 Federal Battery	LTE Advancing Opportunity
July 9, 2019	Photographic Log	

Southern view of scraped area on caliche well pad during confirmation soil sampling activities.

Project: 012919149	XTO Energy, Inc. Poker Lake Unit Big Sinks 25 Federal Battery	LTE Advancing Opportunity
January 17, 2020	Photographic Log	

ATTACHMENT 2: LITHOLOGIC/SOIL SAMPLING LOGS

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier: PH01	Date: 1/9/20
Project Name: PLU Big Sinks 25 Fed Battery	RP Number: 2RP-5551
Logged By: Ellie	Method: Backhoe
Field Screening: TPH + Chloride	Hole Diameter:
	Total Depth: 4'

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	235	0.5	N	PH01	2	2ft	S	sand - trace silt, brown, no odor
D	7160	0.2	N	PH01A	4	4ft	S	sand, no odor, brown

1000
1005

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier: PH02	Date: 1/9/20	
Project Name: PLU Big Sinks 25 Fed Battery	RP Number: 2RP-5551	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Ellie N	Method: Backhoe
Lat/Long:	Field Screening: TPH + Chloride	Hole Diameter: / Total Depth:
Comments:		

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1025 D	1,629	0.0	N	PH02	1 2 3	2ft 3ft	S	sand, trace caliche, no odor, brown to light brown
1030 D	342	0.0	N	PH02A	4 6 8 10 12 14 16 18 20 12	3.75ft	S	caliche, no odor

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier: PH03	Date: 1/9/20
Project Name: PLU Big Sinks 25 Fed Battery	RP Number: 2RP-5551
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Ellie N / Method: Backhoe
Lat/Long:	Field Screening: TPH & Chloride / Hole Diameter: / Total Depth:
Comments:	

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1056 D	1,719	0.0	N	PH03	2	2ft	S	sand, course-fine, no odor, tan
1055 D	951	0.0	N	PH03A	3	3ft	S	caliche, no odor

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

Compliance · Engineering · Remediation

Identifier: PH04	Date: 12/20/2019
Project Name: PLU Big Sinks 25 Federal Battery	RP Number: 2RP-5551

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: WM	Method: backhoe		
Lat/Long:	Field Screening: PID/HACH	Hole Diameter: 4"	Total Depth: 2.5

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
dry	820	0.2	no	**PH04**	2	2'	SP-SC	SAND, with clay, red-brown, low plasticity, non-cemented
dry	696	0.3	no	**PH04A**		2.5'	cche	CALICHE, with silt, tan, cemented
								Total Depth 2.5 foot bgs
					4			
					6			
					8			
					10			

LT Environmental, Inc.
508 West Stevens Street
Carlsbad, New Mexico 88220
Compliance · Engineering · Remediation

Identifier: PH05	Date: 1/9/20
Project Name: PLU Big Sinks 25 Fed Battery	RP Number: 2RP-5551
Logged By: Ellie N.	Method: Backhoe
Hole Diameter:	Total Depth:
Field Screening: PM + chloride	
Comments:	

LITHOLOGIC / SOIL SAMPLING LOG

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1120 M	1,008	0.2	N	PH05	2	2ft	S	caliche, no odor
1135 D	1,008	0.0	N	PH05A	3	3ft	S	↓
					4			
					6			
					8			
					10			
					12			
					14			
					16			
					18			
					20			
					12			

LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation	Identifier: PH06	Date: 12/20/2019
	Project Name: PLU Big Sinks 25 Federal Battery	RP Number: 2RP-5551
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: WM	Method: backhoe
Lat/Long:	Field Screening: PID/HACH	Hole Diameter: 4"	Total Depth: 3'
Comments:		

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
dry	528	0.7	no	PH06	2	2'	SP-SC	SAND, with clay, red-brown, low plasticity, non-cemented
dry	148	0.8	no	PH06A		3'	cche	CALICHE, with silt, tan, cemented
					4			Total Depth 3 foot bgs
					6			
					8			
					10			

LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH07	Date: 12/20/2019
		Project Name: PLU Big Sinks 25 Federal Battery	RP Number: 2RP-5551
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: WM	Method: backhoe
Lat/Long:	Field Screening: PID/HACH	Hole Diameter: 4"	Total Depth: 3.5'
Comments:			

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
dry	630	0.1	no	PH07	2	2'	SP-SC	SAND, with clay, red-brown, low plasticity, non-cemented
dry	304	0.4	no	PH07A		3.5'	cche	CALICHE, with silt, tan, cemented
					4			Total Depth 3.5 foot bgs
					6			
					8			
					10			

LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH08	Date: 12/20/2019
		Project Name: PLU Big Sinks 25 Federal Battery	RP Number: 2RP-5551
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: WM	Method: backhoe
Lat/Long:	Field Screening: PID/HACH	Hole Diameter: 4"	Total Depth: 3.5'
Comments:			

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
dry	820	0.2	no	PH08	2	2'	SP-SC	SAND, with clay, red-brown, low plasticity, non-cemented
dry	696	0.3	no	PH08A		3.5'	cche	CALICHE, with silt, tan, cemented
					4			Total Depth 3.5 foot bgs
					6			
					8			
					10			

ATTACHMENT 3: LABORATORY ANALYTICAL REPORTS

Analytical Report 630600

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU BIG SINKS FED BATTERY

16-JUL-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-18-18)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-18-4)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Atlanta (LELAP Lab ID #04176)
Xenco-Tampa: Florida (E87429), North Carolina (483)

16-JUL-19

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

Reference: XENCO Report No(s): **630600**
PLU BIG SINKS FED BATTERY
Project Address: Delaware Basin

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) 630600. 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. 630600 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

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 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	07-09-19 13:10	0.5 ft	630600-001
SS02	S	07-09-19 13:15	0.5 ft	630600-002
SS03	S	07-09-19 13:20	0.5 ft	630600-003
SS04	S	07-09-19 13:25	0.5 ft	630600-004
SS05	S	07-09-19 13:30	0.5 ft	630600-005
SS06	S	07-09-19 13:35	0.5 ft	630600-006
SS07	S	07-09-19 13:40	0.5 ft	630600-007
SS08	S	07-09-19 13:45	0.5 ft	630600-008

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU BIG SINKS FED BATTERY

Project ID:
Work Order Number(s): *630600*

Report Date: *16-JUL-19*
Date Received: *07/11/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3095520 BTEX by EPA 8021B

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

Certificate of Analysis Summary 630600

LT Environmental, Inc., Arvada, CO

Project Name: PLU BIG SINKS FED BATTERY

Project Id:

Contact: Dan Moir

Project Location: Delaware Basin

Date Received in Lab: Thu Jul-11-19 12:48 pm

Report Date: 16-JUL-19

Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	630600-001		630600-002		630600-003		630600-004		630600-005		630600-006	
	Field Id:	SS01		SS02		SS03		SS04		SS05		SS06	
	Depth:	0.5- ft		0.5- ft		0.5- ft		0.5- ft		0.5- ft		0.5- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-09-19 13:10		Jul-09-19 13:15		Jul-09-19 13:20		Jul-09-19 13:25		Jul-09-19 13:30		Jul-09-19 13:35	
BTEX by EPA 8021B SUB: T104704400-18-16	***Extracted:***	Jul-13-19 15:20		Jul-13-19 15:20		Jul-13-19 15:20		Jul-13-19 15:20		Jul-13-19 15:20		Jul-13-19 15:20	
	Analyzed:	Jul-15-19 05:52		Jul-15-19 06:14		Jul-16-19 11:21		Jul-15-19 06:58		Jul-15-19 07:20		Jul-15-19 07:42	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00197	0.00197	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00196	0.00196	<0.00200	0.00200
Toluene		<0.00197	0.00197	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00196	0.00196	0.0160	0.00200
Ethylbenzene		<0.00197	0.00197	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00196	0.00196	0.00480	0.00200
m,p-Xylenes		<0.00394	0.00394	<0.00401	0.00401	<0.00400	0.00400	<0.00402	0.00402	<0.00393	0.00393	0.0129	0.00399
o-Xylene		<0.00197	0.00197	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00196	0.00196	0.00548	0.00200
Total Xylenes		<0.00197	0.00197	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00196	0.00196	0.0184	0.00200
Total BTEX		<0.00197	0.00197	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00196	0.00196	0.0392	0.00200
Chloride by EPA 300 SUB: T104704400-18-16	***Extracted:***	Jul-15-19 11:00		Jul-15-19 11:00		Jul-15-19 11:00		Jul-15-19 11:00		Jul-15-19 11:00		Jul-15-19 11:15	
	Analyzed:	Jul-15-19 16:59		Jul-15-19 17:06		Jul-15-19 17:13		Jul-15-19 17:21		Jul-15-19 17:28		Jul-15-19 18:33	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		12700	99.2	7800	49.6	9500	49.9	11100	50.0	9840	50.0	14600	99.4
TPH by SW8015 Mod SUB: T104704400-18-16	***Extracted:***	Jul-14-19 08:00		Jul-14-19 08:00		Jul-14-19 08:00		Jul-14-19 08:00		Jul-14-19 08:00		Jul-14-19 08:00	
	Analyzed:	Jul-14-19 11:04		Jul-14-19 12:16		Jul-14-19 12:41		Jul-14-19 13:05		Jul-14-19 13:30		Jul-14-19 13:54	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	17.3	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		26.9	15.0	1210	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	43.3	15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0	15.0	90.1	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		26.9	15.0	1320	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	43.3	15.0
Total GRO-DRO		26.9	15.0	1230	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0	43.3	15.0

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

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analysis Summary 630600

LT Environmental, Inc., Arvada, CO

Project Name: PLU BIG SINKS FED BATTERY

Project Id:

Contact: Dan Moir

Project Location: Delaware Basin

Date Received in Lab: Thu Jul-11-19 12:48 pm

Report Date: 16-JUL-19

Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	630600-007		630600-008					
	Field Id:	SS07		SS08					
	Depth:	0.5- ft		0.5- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Jul-09-19 13:40		Jul-09-19 13:45					
BTEX by EPA 8021B SUB: T104704400-18-16	***Extracted:***	Jul-13-19 15:20		Jul-13-19 15:20					
	Analyzed:	Jul-15-19 08:04		Jul-15-19 08:26					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00199	0.00199	<0.00200	0.00200				
Toluene		<0.00199	0.00199	<0.00200	0.00200				
Ethylbenzene		<0.00199	0.00199	<0.00200	0.00200				
m,p-Xylenes		<0.00398	0.00398	<0.00400	0.00400				
o-Xylene		<0.00199	0.00199	<0.00200	0.00200				
Total Xylenes		<0.00199	0.00199	<0.00200	0.00200				
Total BTEX		<0.00199	0.00199	<0.00200	0.00200				
Chloride by EPA 300 SUB: T104704400-18-16	***Extracted:***	Jul-15-19 11:15		Jul-15-19 11:15					
	Analyzed:	Jul-16-19 16:44		Jul-15-19 18:48					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		11100 D	100	9840	50.1				
TPH by SW8015 Mod SUB: T104704400-18-16	***Extracted:***	Jul-14-19 08:00		Jul-14-19 08:00					
	Analyzed:	Jul-14-19 14:19		Jul-14-19 14:43					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<14.9	14.9	<15.0	15.0				
Diesel Range Organics (DRO)		<14.9	14.9	<15.0	15.0				
Motor Oil Range Hydrocarbons (MRO)		<14.9	14.9	<15.0	15.0				
Total TPH		<14.9	14.9	<15.0	15.0				
Total GRO-DRO		<14.9	14.9	<15.0	15.0				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	07.11.19 12.48
Lab Sample Id:	630600-001	Date Collected:	07.09.19 13.10	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.15.19 11.00	Basis:	Wet Weight
Seq Number:	3095416			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**12700**	99.2	mg/kg	07.15.19 16.59		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.14.19 08.00	Basis:	Wet Weight
Seq Number:	3095300			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.14.19 11.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	**26.9**	15.0	mg/kg	07.14.19 11.04		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.14.19 11.04	U	1
Total TPH	PHC635	**26.9**	15.0	mg/kg	07.14.19 11.04		1
Total GRO-DRO	PHC628	**26.9**	15.0	mg/kg	07.14.19 11.04		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	07.14.19 11.04	
o-Terphenyl	84-15-1	120	%	70-135	07.14.19 11.04	

Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	07.11.19 12.48
Lab Sample Id:	630600-001	Date Collected:	07.09.19 13.10	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	AMB			% Moisture:	
Analyst:	AMB	Date Prep:	07.13.19 15.20	Basis:	Wet Weight
Seq Number:	3095520			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00197	0.00197	mg/kg	07.15.19 05.52	U	1
Toluene	108-88-3	<0.00197	0.00197	mg/kg	07.15.19 05.52	U	1
Ethylbenzene	100-41-4	<0.00197	0.00197	mg/kg	07.15.19 05.52	U	1
m,p-Xylenes	179601-23-1	<0.00394	0.00394	mg/kg	07.15.19 05.52	U	1
o-Xylene	95-47-6	<0.00197	0.00197	mg/kg	07.15.19 05.52	U	1
Total Xylenes	1330-20-7	<0.00197	0.00197	mg/kg	07.15.19 05.52	U	1
Total BTEX		<0.00197	0.00197	mg/kg	07.15.19 05.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	07.15.19 05.52	
1,4-Difluorobenzene	540-36-3	95	%	70-130	07.15.19 05.52	

Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	07.11.19 12.48
Lab Sample Id:	630600-002	Date Collected:	07.09.19 13.15	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.15.19 11.00	Basis:	Wet Weight
Seq Number:	3095416			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7800**	49.6	mg/kg	07.15.19 17.06		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.14.19 08.00	Basis:	Wet Weight
Seq Number:	3095300			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**17.3**	15.0	mg/kg	07.14.19 12.16		1
Diesel Range Organics (DRO)	C10C28DRO	**1210**	15.0	mg/kg	07.14.19 12.16		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**90.1**	15.0	mg/kg	07.14.19 12.16		1
Total TPH	PHC635	**1320**	15.0	mg/kg	07.14.19 12.16		1
Total GRO-DRO	PHC628	**1230**	15.0	mg/kg	07.14.19 12.16		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	07.14.19 12.16	
o-Terphenyl	84-15-1	126	%	70-135	07.14.19 12.16	

Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	07.11.19 12.48
Lab Sample Id:	630600-002	Date Collected:	07.09.19 13.15	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	AMB			% Moisture:	
Analyst:	AMB	Date Prep:	07.13.19 15.20	Basis:	Wet Weight
Seq Number:	3095520			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.15.19 06.14	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.15.19 06.14	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.15.19 06.14	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.15.19 06.14	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.15.19 06.14	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.15.19 06.14	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.15.19 06.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	90	%	70-130	07.15.19 06.14	
4-Bromofluorobenzene	460-00-4	105	%	70-130	07.15.19 06.14	

Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	07.11.19 12.48
Lab Sample Id:	630600-003	Date Collected:	07.09.19 13.20	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.15.19 11.00	Basis:	Wet Weight
Seq Number:	3095416			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9500**	49.9	mg/kg	07.15.19 17.13		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.14.19 08.00	Basis:	Wet Weight
Seq Number:	3095300			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.14.19 12.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.14.19 12.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.14.19 12.41	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.14.19 12.41	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.14.19 12.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	07.14.19 12.41	
o-Terphenyl	84-15-1	94	%	70-135	07.14.19 12.41	

Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	07.11.19 12.48
Lab Sample Id:	630600-003	Date Collected:	07.09.19 13.20	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	AMB			% Moisture:	
Analyst:	AMB	Date Prep:	07.13.19 15.20	Basis:	Wet Weight
Seq Number:	3095520			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.16.19 11.21	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.16.19 11.21	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.16.19 11.21	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.16.19 11.21	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.16.19 11.21	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.16.19 11.21	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.16.19 11.21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.16.19 11.21	
4-Bromofluorobenzene	460-00-4	109	%	70-130	07.16.19 11.21	

Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	07.11.19 12.48
Lab Sample Id:	630600-004	Date Collected:	07.09.19 13.25	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.15.19 11.00	Basis:	Wet Weight
Seq Number:	3095416			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11100**	50.0	mg/kg	07.15.19 17.21		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.14.19 08.00	Basis:	Wet Weight
Seq Number:	3095300			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.14.19 13.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.14.19 13.05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.14.19 13.05	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.14.19 13.05	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.14.19 13.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	07.14.19 13.05	
o-Terphenyl	84-15-1	103	%	70-135	07.14.19 13.05	

Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	07.11.19 12.48
Lab Sample Id:	630600-004	Date Collected:	07.09.19 13.25	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	AMB			% Moisture:	
Analyst:	AMB	Date Prep:	07.13.19 15.20	Basis:	Wet Weight
Seq Number:	3095520			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.15.19 06.58	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.15.19 06.58	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.15.19 06.58	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.15.19 06.58	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.15.19 06.58	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.15.19 06.58	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.15.19 06.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	07.15.19 06.58	
1,4-Difluorobenzene	540-36-3	92	%	70-130	07.15.19 06.58	

Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	07.11.19 12.48
Lab Sample Id:	630600-005	Date Collected:	07.09.19 13.30	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.15.19 11.00	Basis:	Wet Weight
Seq Number:	3095416			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9840**	50.0	mg/kg	07.15.19 17.28		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.14.19 08.00	Basis:	Wet Weight
Seq Number:	3095300			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.14.19 13.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.14.19 13.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.14.19 13.30	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.14.19 13.30	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.14.19 13.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	07.14.19 13.30	
o-Terphenyl	84-15-1	108	%	70-135	07.14.19 13.30	

Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	07.11.19 12.48
Lab Sample Id:	630600-005	Date Collected:	07.09.19 13.30	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	AMB			% Moisture:	
Analyst:	AMB	Date Prep:	07.13.19 15.20	Basis:	Wet Weight
Seq Number:	3095520			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00196	0.00196	mg/kg	07.15.19 07.20	U	1
Toluene	108-88-3	<0.00196	0.00196	mg/kg	07.15.19 07.20	U	1
Ethylbenzene	100-41-4	<0.00196	0.00196	mg/kg	07.15.19 07.20	U	1
m,p-Xylenes	179601-23-1	<0.00393	0.00393	mg/kg	07.15.19 07.20	U	1
o-Xylene	95-47-6	<0.00196	0.00196	mg/kg	07.15.19 07.20	U	1
Total Xylenes	1330-20-7	<0.00196	0.00196	mg/kg	07.15.19 07.20	U	1
Total BTEX		<0.00196	0.00196	mg/kg	07.15.19 07.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	07.15.19 07.20	
1,4-Difluorobenzene	540-36-3	98	%	70-130	07.15.19 07.20	

Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id:	**SS06**	Matrix:	Soil	Date Received:	07.11.19 12.48
Lab Sample Id:	630600-006	Date Collected:	07.09.19 13.35	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.15.19 11.15	Basis:	Wet Weight
Seq Number:	3095517			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**14600**	99.4	mg/kg	07.15.19 18.33		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.14.19 08.00	Basis:	Wet Weight
Seq Number:	3095300			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.14.19 13.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	**43.3**	15.0	mg/kg	07.14.19 13.54		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.14.19 13.54	U	1
Total TPH	PHC635	**43.3**	15.0	mg/kg	07.14.19 13.54		1
Total GRO-DRO	PHC628	**43.3**	15.0	mg/kg	07.14.19 13.54		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	07.14.19 13.54	
o-Terphenyl	84-15-1	103	%	70-135	07.14.19 13.54	

Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id:	**SS06**	Matrix:	Soil	Date Received:	07.11.19 12.48
Lab Sample Id:	630600-006	Date Collected:	07.09.19 13.35	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	AMB			% Moisture:	
Analyst:	AMB	Date Prep:	07.13.19 15.20	Basis:	Wet Weight
Seq Number:	3095520			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.15.19 07.42	U	1
Toluene	108-88-3	**0.0160**	0.00200	mg/kg	07.15.19 07.42		1
Ethylbenzene	100-41-4	**0.00480**	0.00200	mg/kg	07.15.19 07.42		1
m,p-Xylenes	179601-23-1	**0.0129**	0.00399	mg/kg	07.15.19 07.42		1
o-Xylene	95-47-6	**0.00548**	0.00200	mg/kg	07.15.19 07.42		1
Total Xylenes	1330-20-7	**0.0184**	0.00200	mg/kg	07.15.19 07.42		1
Total BTEX		**0.0392**	0.00200	mg/kg	07.15.19 07.42		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	99	%	70-130	07.15.19 07.42	
1,4-Difluorobenzene	540-36-3	92	%	70-130	07.15.19 07.42	

Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id:	**SS07**	Matrix:	Soil	Date Received:	07.11.19 12.48
Lab Sample Id:	630600-007	Date Collected:	07.09.19 13.40	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.15.19 11.15	Basis:	Wet Weight
Seq Number:	3095517			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**11100**	100	mg/kg	07.15.19 18.41	D	20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.14.19 08.00	Basis:	Wet Weight
Seq Number:	3095300			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.14.19 14.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.14.19 14.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	07.14.19 14.19	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	07.14.19 14.19	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	07.14.19 14.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	07.14.19 14.19	
o-Terphenyl	84-15-1	111	%	70-135	07.14.19 14.19	

Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id:	**SS07**	Matrix:	Soil	Date Received:	07.11.19 12.48
Lab Sample Id:	630600-007	Date Collected:	07.09.19 13.40	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	AMB			% Moisture:	
Analyst:	AMB	Date Prep:	07.13.19 15.20	Basis:	Wet Weight
Seq Number:	3095520			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.15.19 08.04	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.15.19 08.04	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.15.19 08.04	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.15.19 08.04	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.15.19 08.04	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.15.19 08.04	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.15.19 08.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	07.15.19 08.04	
4-Bromofluorobenzene	460-00-4	107	%	70-130	07.15.19 08.04	

Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id:	**SS08**	Matrix:	Soil	Date Received:	07.11.19 12.48
Lab Sample Id:	630600-008	Date Collected:	07.09.19 13.45	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.15.19 11.15	Basis:	Wet Weight
Seq Number:	3095517			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**9840**	50.1	mg/kg	07.15.19 18.48		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.14.19 08.00	Basis:	Wet Weight
Seq Number:	3095300			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.14.19 14.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.14.19 14.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.14.19 14.43	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.14.19 14.43	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.14.19 14.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	07.14.19 14.43	
o-Terphenyl	84-15-1	109	%	70-135	07.14.19 14.43	

Certificate of Analytical Results 630600

LT Environmental, Inc., Arvada, CO

PLU BIG SINKS FED BATTERY

Sample Id:	**SS08**	Matrix:	Soil	Date Received:	07.11.19 12.48
Lab Sample Id:	630600-008	Date Collected:	07.09.19 13.45	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	AMB			% Moisture:	
Analyst:	AMB	Date Prep:	07.13.19 15.20	Basis:	Wet Weight
Seq Number:	3095520			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.15.19 08.26	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.15.19 08.26	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.15.19 08.26	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.15.19 08.26	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.15.19 08.26	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.15.19 08.26	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.15.19 08.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.15.19 08.26	
4-Bromofluorobenzene	460-00-4	104	%	70-130	07.15.19 08.26	

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

QC Summary 630600

LT Environmental, Inc.

PLU BIG SINKS FED BATTERY

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3095416 Matrix: Solid Date Prep: 07.15.19
MB Sample Id: 7682025-1-BLK LCS Sample Id: 7682025-1-BKS LCSD Sample Id: 7682025-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	240	96	240	96	90-110	0	20	mg/kg	07.15.19 13:52	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3095517 Matrix: Solid Date Prep: 07.15.19
MB Sample Id: 7682026-1-BLK LCS Sample Id: 7682026-1-BKS LCSD Sample Id: 7682026-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	241	96	241	96	90-110	0	20	mg/kg	07.15.19 17:57	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3095416 Matrix: Soil Date Prep: 07.15.19
Parent Sample Id: 630592-001 MS Sample Id: 630592-001 S MSD Sample Id: 630592-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	452	249	671	88	672	88	90-110	0	20	mg/kg	07.15.19 14:19	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3095416 Matrix: Soil Date Prep: 07.15.19
Parent Sample Id: 630592-002 MS Sample Id: 630592-002 S MSD Sample Id: 630592-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	135	250	367	93	367	93	90-110	0	20	mg/kg	07.15.19 16:01	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3095517 Matrix: Soil Date Prep: 07.15.19
Parent Sample Id: 630733-004 MS Sample Id: 630733-004 S MSD Sample Id: 630733-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	0.993	250	281	112	281	112	90-110	0	20	mg/kg	07.15.19 18:19	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

QC Summary 630600

LT Environmental, Inc.

PLU BIG SINKS FED BATTERY

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3095517 Matrix: Soil Date Prep: 07.15.19
Parent Sample Id: 630733-009 MS Sample Id: 630733-009 S MSD Sample Id: 630733-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	262	251	502	96	501	95	90-110	0	20	mg/kg	07.15.19 20:00	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3095300 Matrix: Solid Date Prep: 07.14.19
MB Sample Id: 7681990-1-BLK LCS Sample Id: 7681990-1-BKS LCSD Sample Id: 7681990-1-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)	<8.00	1000	1090	109	1020	102	70-135	7	20	mg/kg	07.14.19 10:15	
Diesel Range Organics (DRO)	<8.13	1000	1150	115	1140	114	70-135	1	20	mg/kg	07.14.19 10:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		90		90		70-135	%	07.14.19 10:15
o-Terphenyl	94		99		98		70-135	%	07.14.19 10:15

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3095300 Matrix: Soil Date Prep: 07.14.19
Parent Sample Id: 630600-001 MS Sample Id: 630600-001 S MSD Sample Id: 630600-001 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)	10.7	997	1030	102	1060	105	70-135	3	20	mg/kg	07.14.19 11:28	
Diesel Range Organics (DRO)	26.9	997	1160	114	1190	117	70-135	3	20	mg/kg	07.14.19 11:28	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	91		94		70-135	%	07.14.19 11:28
o-Terphenyl	115		117		70-135	%	07.14.19 11:28

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

QC Summary 630600

LT Environmental, Inc.

PLU BIG SINKS FED BATTERY

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3095520 Matrix: Solid Date Prep: 07.13.19

MB Sample Id: 7681948-1-BLK LCS Sample Id: 7681948-1-BKS LCSD Sample Id: 7681948-1-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	0.0743	74	0.0815	82	70-130	9	35	mg/kg	07.15.19 09:54	
Toluene	<0.00200	0.100	0.0861	86	0.0948	95	70-130	10	35	mg/kg	07.15.19 09:54	
Ethylbenzene	<0.00200	0.100	0.0853	85	0.0959	96	70-130	12	35	mg/kg	07.15.19 09:54	
m,p-Xylenes	<0.00400	0.200	0.174	87	0.195	98	70-130	11	35	mg/kg	07.15.19 09:54	
o-Xylene	<0.00200	0.100	0.0827	83	0.0923	92	70-130	11	35	mg/kg	07.15.19 09:54	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		90		94		70-130	%	07.15.19 09:54
4-Bromofluorobenzene	101		97		103		70-130	%	07.15.19 09:54

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3095520 Matrix: Soil Date Prep: 07.13.19

Parent Sample Id: 630566-039 MS Sample Id: 630566-039 S MSD Sample Id: 630566-039 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	0.0996	0.0901	90	0.0759	76	70-130	17	35	mg/kg	07.16.19 11:43	
Toluene	<0.00199	0.0996	0.0861	86	0.0881	88	70-130	2	35	mg/kg	07.16.19 11:43	
Ethylbenzene	<0.00199	0.0996	0.0933	94	0.0821	82	70-130	13	35	mg/kg	07.16.19 11:43	
m,p-Xylenes	<0.00398	0.199	0.189	95	0.165	83	70-130	14	35	mg/kg	07.16.19 11:43	
o-Xylene	0.0716	0.0996	0.0887	17	0.0797	8	70-130	11	35	mg/kg	07.16.19 11:43	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		99		70-130	%	07.16.19 11:43
4-Bromofluorobenzene	114		125		70-130	%	07.16.19 11:43

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike

Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added

LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec

Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

Chain of Custody

Work Order No: 630600

XENCO LABORATORIES

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)

www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrel
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO-Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM
Phone:	432.704.5178	Email:	dmoir@ltenv.com rmcafee@ltenv.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	PLU Big Sinks Fed Battery	Turn Around	
Project Number:		Routine ☐	
P.O. Number:	New Spill 06-21-19	Rush: 3day	
Sampler's Name:	Robert McAfee	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	2.8	Thermometer ID	
Received Intact:	(Yes) No	T-NM-007	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Total Containers:	8

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
SS01	S	07/09/19	1310	0.5	1	X	X	X	discrete
SS02			1315			X	X	X	
SS03			1320			X	X	X	
SS04			1325			X	X	X	
SS05			1330			X	X	X	
SS06			1335			X	X	X	
SS07			1340			X	X	X	
SS08			1345			X	X	X	
SS-									

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

ANALYSIS REQUEST

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 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 1631 / 245.1 / 7470 / 7471 : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Robert McAfee		7/11/19 1248	2		
			4		
			6		

Revised Date 051418 Rev. 2018.1

Inter-Office Shipment

IOS Number **43274**

Date/Time: 07/11/19 15:03
Created by: Elizabeth Mcclellan
Please send report to: Jessica Kramer

Lab# From: **Carlsbad**
Delivery Priority:
Address: 1089 N Canal Street

Lab# To: **Midland**
Air Bill No.: 775692882670
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
630600-001	S	SS01	07/09/19 13:10	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630600-001	S	SS01	07/09/19 13:10	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630600-001	S	SS01	07/09/19 13:10	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PI	
630600-002	S	SS02	07/09/19 13:15	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PI	
630600-002	S	SS02	07/09/19 13:15	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630600-002	S	SS02	07/09/19 13:15	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630600-003	S	SS03	07/09/19 13:20	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630600-003	S	SS03	07/09/19 13:20	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PI	
630600-003	S	SS03	07/09/19 13:20	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630600-004	S	SS04	07/09/19 13:25	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PI	
630600-004	S	SS04	07/09/19 13:25	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630600-004	S	SS04	07/09/19 13:25	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630600-005	S	SS05	07/09/19 13:30	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630600-005	S	SS05	07/09/19 13:30	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PI	
630600-005	S	SS05	07/09/19 13:30	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630600-006	S	SS06	07/09/19 13:35	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PI	
630600-006	S	SS06	07/09/19 13:35	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630600-006	S	SS06	07/09/19 13:35	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630600-007	S	SS07	07/09/19 13:40	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630600-007	S	SS07	07/09/19 13:40	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630600-007	S	SS07	07/09/19 13:40	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PI	
630600-008	S	SS08	07/09/19 13:45	SW8021B	BTEX by EPA 8021B	07/15/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630600-008	S	SS08	07/09/19 13:45	E300_CL	Chloride by EPA 300	07/15/19	01/05/20	JKR	CL	
630600-008	S	SS08	07/09/19 13:45	SW8015MOD_NM	TPH by SW8015 Mod	07/15/19	07/23/19	JKR	GRO-DRO PHCC10C28 PI	

Inter-Office Shipment

IOS Number **43274**

Date/Time: 07/11/19 15:03
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 775692882670

Please send report to: Jessica Kramer
Address: 1089 N Canal Street
E-Mail: jessica.kramer@xenco.com

Inter Office Shipment or Sample Comments:

Relinquished By: Elizabeth McClellan

Date Relinquished: 07/11/2019

Received By: Brianna Teel

Date Received: 07/12/2019 11:42

Cooler Temperature: 0.4

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 43274

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : R8

Sent By: Elizabeth McClellan **Date Sent:** 07/11/2019 03:03 PM

Received By: Brianna Teel **Date Received:** 07/12/2019 11:42 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	.4	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 *Custody Seals Signed and dated for Containers/coolers	**Yes**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ **Contacted by :** _____ **Date:** _____

Checklist reviewed by: Brianna Teel Date: 07/12/2019

Brianna Teel

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 07/11/2019 12:48:00 PM

Work Order #: 630600

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?	**No**	
#5 Custody Seals intact on sample bottles?	**No**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**Yes**	Subbed to Xenco Midland.
#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: 07/11/2019

Checklist reviewed by: Jessica Kramer Date: 07/12/2019

Jessica Kramer

Analytical Report 640781

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU Big Sinks 25 Federal Battery

2RP-4398

28-OCT-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 (2017-142), North Carolina (681)

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-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)

28-OCT-19

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

Reference: XENCO Report No(s): **640781**
PLU Big Sinks 25 Federal Battery
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) 640781. 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. 640781 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

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 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	10-22-19 13:35	1 ft	640781-001
PH01A	S	10-22-19 13:40	2 ft	640781-002
PH01B	S	10-22-19 13:45	3 ft	640781-003
PH01C	S	10-22-19 13:50	4 ft	640781-004
PH01D	S	10-22-19 13:55	5 ft	640781-005
PH02	S	10-22-19 14:10	1 ft	640781-006
PH02A	S	10-22-19 14:15	2 ft	640781-007
PH02B	S	10-22-19 14:20	3 ft	640781-008
PH02C	S	10-22-19 14:25	4 ft	640781-009
PH02D	S	10-22-19 14:30	5 ft	640781-010
BH01	S	10-22-19 16:20	1 ft	640781-011
BH01A	S	10-22-19 16:25	2 ft	640781-012
BH01B	S	10-22-19 16:30	3 ft	640781-013
BH01C	S	10-22-19 16:35	4 ft	640781-014
BH01D	S	10-22-19 16:40	5 ft	640781-015
FS01	S	10-22-19 12:40	5 ft	640781-016
FS02	S	10-22-19 12:45	5 ft	640781-017
SW03	S	10-22-19 12:50	1 - 5 ft	640781-018
SW01	S	10-22-19 12:55	1 - 5 ft	640781-019
SW02	S	10-22-19 13:00	1 - 5 ft	640781-020
SW04	S	10-22-19 13:05	1 - 5 ft	640781-021

Version: 1.%

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU Big Sinks 25 Federal Battery

Project ID: *2RP-4398*
Work Order Number(s): *640781*

Report Date: *28-OCT-19*
Date Received: *10/23/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3105377 Chloride by EPA 300
Lab Sample ID 640781-020 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: 640781-009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020, -021.
The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3105530 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3105532 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 640781

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 25 Federal Battery

Project Id: 2RP-4398
Contact: Dan Moir
Project Location:

Date Received in Lab: Wed Oct-23-19 09:12 am
Report Date: 28-OCT-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	640781-001		640781-002		640781-003		640781-004		640781-005		640781-006	
	Field Id:	PH01		PH01A		PH01B		PH01C		PH01D		PH02	
	Depth:	1- ft		2- ft		3- ft		4- ft		5- ft		1- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-22-19 13:35		Oct-22-19 13:40		Oct-22-19 13:45		Oct-22-19 13:50		Oct-22-19 13:55		Oct-22-19 14:10	
BTEX by EPA 8021B SUB: T104704400-19-19	***Extracted:***	Oct-27-19 10:30		Oct-27-19 10:30		Oct-27-19 10:30		Oct-27-19 10:30		Oct-27-19 10:30		Oct-27-19 10:30	
	Analyzed:	Oct-27-19 14:02		Oct-27-19 14:23		Oct-27-19 14:43		Oct-27-19 15:03		Oct-27-19 15:23		Oct-27-19 15:43	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200
Toluene		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200
Ethylbenzene		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200
m,p-Xylenes		<0.00402	0.00402	<0.00398	0.00398	<0.00401	0.00401	<0.00403	0.00403	<0.00399	0.00399	<0.00400	0.00400
o-Xylene		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200
Total Xylenes		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200
Total BTEX		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00200	0.00200
Chloride by EPA 300 SUB: T104704400-19-19	***Extracted:***	Oct-24-19 14:00		Oct-24-19 14:00		Oct-24-19 14:00		Oct-24-19 14:00		Oct-24-19 14:00		Oct-24-19 14:00	
	Analyzed:	Oct-24-19 20:01		Oct-24-19 20:16		Oct-24-19 20:21		Oct-24-19 20:26		Oct-24-19 20:31		Oct-24-19 20:36	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<4.97	4.97	<4.97	4.97	<5.01	5.01	8.30	5.00	7.72	5.00	<4.99	4.99
TPH by SW8015 Mod SUB: T104704400-19-19	***Extracted:***	Oct-24-19 11:00		Oct-24-19 11:00		Oct-24-19 11:00		Oct-24-19 11:00		Oct-24-19 11:00		Oct-24-19 11:00	
	Analyzed:	Oct-24-19 13:13		Oct-24-19 14:16		Oct-24-19 14:37		Oct-24-19 14:58		Oct-24-19 15:32		Oct-24-19 15:53	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9	<49.9	49.9
Diesel Range Organics (DRO)		<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9	<49.9	49.9
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9	<49.9	49.9
Total GRO-DRO		<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9	<49.9	49.9
Total TPH		<49.9	49.9	<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.9	49.9	<49.9	49.9

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Version: 1.%

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analysis Summary 640781

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 25 Federal Battery

Project Id: 2RP-4398
Contact: Dan Moir
Project Location:

Date Received in Lab: Wed Oct-23-19 09:12 am
Report Date: 28-OCT-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	640781-007		640781-008		640781-009		640781-010		640781-011		640781-012	
	Field Id:	PH02A		PH02B		PH02C		PH02D		BH01		BH01A	
	Depth:	2- ft		3- ft		4- ft		5- ft		1- ft		2- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-22-19 14:15		Oct-22-19 14:20		Oct-22-19 14:25		Oct-22-19 14:30		Oct-22-19 16:20		Oct-22-19 16:25	
BTEX by EPA 8021B SUB: T104704400-19-19	*Extracted:*	Oct-27-19 10:30		Oct-27-19 10:30		Oct-27-19 10:30		Oct-27-19 10:30		Oct-27-19 10:30		Oct-27-19 10:30	
	Analyzed:	Oct-27-19 16:03		Oct-27-19 16:23		Oct-27-19 16:43		Oct-27-19 17:03		Oct-27-19 18:22		Oct-27-19 18:42	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00198	0.00198	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199
Toluene		<0.00198	0.00198	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199
Ethylbenzene		<0.00198	0.00198	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199
m,p-Xylenes		<0.00397	0.00397	<0.00398	0.00398	<0.00404	0.00404	<0.00399	0.00399	<0.00398	0.00398	<0.00398	0.00398
o-Xylene		<0.00198	0.00198	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199
Total Xylenes		<0.00198	0.00198	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199
Total BTEX		<0.00198	0.00198	<0.00199	0.00199	<0.00202	0.00202	<0.00200	0.00200	<0.00199	0.00199	<0.00199	0.00199
Chloride by EPA 300 SUB: T104704400-19-19	*Extracted:*	Oct-24-19 14:00		Oct-24-19 14:00		Oct-24-19 14:30		Oct-24-19 14:30		Oct-24-19 14:30		Oct-24-19 14:30	
	Analyzed:	Oct-24-19 20:41		Oct-24-19 20:46		Oct-24-19 21:16		Oct-24-19 21:31		Oct-24-19 21:36		Oct-24-19 21:41	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		5.08	4.96	<5.04	5.04	23.4	5.00	29.4	5.03	<5.05	5.05	<5.00	5.00
TPH by SW8015 Mod SUB: T104704400-19-19	*Extracted:*	Oct-24-19 11:00		Oct-24-19 11:00		Oct-24-19 11:00		Oct-24-19 11:00		Oct-24-19 11:00		Oct-24-19 11:00	
	Analyzed:	Oct-24-19 16:14		Oct-24-19 16:35		Oct-24-19 16:56		Oct-24-19 17:16		Oct-24-19 17:58		Oct-24-19 18:19	
	Units/RL:	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	<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0
Diesel Range Organics (DRO)		<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0
Total GRO-DRO		<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0
Total TPH		<50.0	50.0	<50.0	50.0	<49.9	49.9	<49.8	49.8	<50.0	50.0	<50.0	50.0

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Version: 1.%

Jessica Kramer
Project Assistant

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Certificate of Analysis Summary 640781

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 25 Federal Battery

Project Id: 2RP-4398
Contact: Dan Moir
Project Location:

Date Received in Lab: Wed Oct-23-19 09:12 am
Report Date: 28-OCT-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	640781-013		640781-014		640781-015		640781-016		640781-017		640781-018	
	Field Id:	BH01B		BH01C		BH01D		FS01		FS02		SW03	
	Depth:	3- ft		4- ft		5- ft		5- ft		5- ft		1-5 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-22-19 16:30		Oct-22-19 16:35		Oct-22-19 16:40		Oct-22-19 12:40		Oct-22-19 12:45		Oct-22-19 12:50	
BTEX by EPA 8021B SUB: T104704400-19-19	***Extracted:***	Oct-27-19 10:30		Oct-27-19 10:30		Oct-27-19 10:30		Oct-27-19 10:30		Oct-27-19 10:30		Oct-27-19 10:30	
	Analyzed:	Oct-27-19 19:02		Oct-27-19 19:22		Oct-27-19 19:42		Oct-27-19 20:02		Oct-27-19 20:23		Oct-27-19 20:43	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199
Toluene		<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199
Ethylbenzene		<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199
m,p-Xylenes		<0.00403	0.00403	<0.00398	0.00398	<0.00402	0.00402	<0.00396	0.00396	<0.00400	0.00400	<0.00398	0.00398
o-Xylene		<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199
Total Xylenes		<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199
Total BTEX		<0.00202	0.00202	<0.00199	0.00199	<0.00201	0.00201	<0.00198	0.00198	<0.00200	0.00200	<0.00199	0.00199
Chloride by EPA 300 SUB: T104704400-19-19	***Extracted:***	Oct-24-19 14:30		Oct-24-19 14:30		Oct-24-19 14:30		Oct-24-19 14:30		Oct-24-19 14:30		Oct-24-19 14:30	
	Analyzed:	Oct-24-19 21:46		Oct-24-19 22:01		Oct-24-19 22:06		Oct-24-19 22:11		Oct-24-19 22:16		Oct-24-19 22:21	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		62.3	4.99	40.3	5.02	18.1	4.97	96.6	4.95	1000	4.95	1030	4.95
TPH by SW8015 Mod SUB: T104704400-19-19	***Extracted:***	Oct-24-19 11:00		Oct-24-19 11:00		Oct-24-19 11:00		Oct-24-19 11:00		Oct-24-19 11:00		Oct-24-19 11:00	
	Analyzed:	Oct-24-19 18:41		Oct-24-19 19:02		Oct-24-19 19:22		Oct-24-19 19:43		Oct-24-19 20:04		Oct-24-19 20:25	
	Units/RL:	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	<49.9	49.9	<50.0	50.0	<49.8	49.8	<50.0	50.0	<49.9	49.9
Diesel Range Organics (DRO)		<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.8	49.8	<50.0	50.0	<49.9	49.9
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.8	49.8	<50.0	50.0	<49.9	49.9
Total GRO-DRO		<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.8	49.8	<50.0	50.0	<49.9	49.9
Total TPH		<50.0	50.0	<49.9	49.9	<50.0	50.0	<49.8	49.8	<50.0	50.0	<49.9	49.9

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Jessica Kramer
Project Assistant

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Certificate of Analysis Summary 640781

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 25 Federal Battery

Project Id: 2RP-4398
Contact: Dan Moir
Project Location:

Date Received in Lab: Wed Oct-23-19 09:12 am
Report Date: 28-OCT-19
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	640781-019		640781-020		640781-021					
	Field Id:	SW01		SW02		SW04					
	Depth:	1-5 ft		1-5 ft		1-5 ft					
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	Oct-22-19 12:55		Oct-22-19 13:00		Oct-22-19 13:05					
BTEX by EPA 8021B SUB: T104704400-19-19	***Extracted:***	Oct-27-19 10:30		Oct-27-19 10:30		Oct-27-19 11:00					
	Analyzed:	Oct-27-19 21:03		Oct-27-19 21:23		Oct-28-19 00:41					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199				
Toluene		<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199				
Ethylbenzene		<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199				
m,p-Xylenes		<0.00400	0.00400	<0.00402	0.00402	<0.00398	0.00398				
o-Xylene		<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199				
Total Xylenes		<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199				
Total BTEX		<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199				
Chloride by EPA 300 SUB: T104704400-19-19	***Extracted:***	Oct-24-19 14:30		Oct-24-19 14:30		Oct-24-19 14:30					
	Analyzed:	Oct-24-19 22:41		Oct-24-19 22:26		Oct-24-19 22:46					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		4430	25.2	633	4.99	572	4.98				
TPH by SW8015 Mod SUB: T104704400-19-19	***Extracted:***	Oct-24-19 11:00		Oct-24-19 11:00		Oct-24-19 11:00					
	Analyzed:	Oct-24-19 20:46		Oct-24-19 21:07		Oct-24-19 20:46					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<49.9	49.9	<50.0	50.0				
Diesel Range Organics (DRO)		<50.0	50.0	<49.9	49.9	<50.0	50.0				
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.9	49.9	<50.0	50.0				
Total GRO-DRO		<50.0	50.0	<49.9	49.9	<50.0	50.0				
Total TPH		<50.0	50.0	<49.9	49.9	<50.0	50.0				

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Version: 1.%

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-001	Date Collected:	10.22.19 13.35	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.00	Basis:	Wet Weight
Seq Number:	3105376			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	10.24.19 20.01	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105463			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.24.19 13.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.24.19 13.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.24.19 13.13	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.24.19 13.13	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.24.19 13.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	10.24.19 13.13	
o-Terphenyl	84-15-1	103	%	70-135	10.24.19 13.13	

Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-001	Date Collected:	10.22.19 13.35	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.27.19 10.30	Basis:	Wet Weight
Seq Number:	3105530			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.27.19 14.02	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.27.19 14.02	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.27.19 14.02	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.27.19 14.02	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.27.19 14.02	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.27.19 14.02	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.27.19 14.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	10.27.19 14.02	
1,4-Difluorobenzene	540-36-3	98	%	70-130	10.27.19 14.02	

Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-002	Date Collected:	10.22.19 13.40	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.00	Basis:	Wet Weight
Seq Number:	3105376			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	10.24.19 20.16	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105463			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 14.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 14.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 14.16	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 14.16	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 14.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	10.24.19 14.16	
o-Terphenyl	84-15-1	101	%	70-135	10.24.19 14.16	

Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-002	Date Collected:	10.22.19 13.40	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.27.19 10.30	Basis:	Wet Weight
Seq Number:	3105530			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.27.19 14.23	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.27.19 14.23	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.27.19 14.23	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.27.19 14.23	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.27.19 14.23	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.27.19 14.23	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.27.19 14.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	10.27.19 14.23	
4-Bromofluorobenzene	460-00-4	98	%	70-130	10.27.19 14.23	

Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**PH01B**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-003	Date Collected:	10.22.19 13.45	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.00	Basis:	Wet Weight
Seq Number:	3105376			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.01	5.01	mg/kg	10.24.19 20.21	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105463			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.24.19 14.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.24.19 14.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.24.19 14.37	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.24.19 14.37	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.24.19 14.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	10.24.19 14.37	
o-Terphenyl	84-15-1	100	%	70-135	10.24.19 14.37	

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LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**PH01B**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-003	Date Collected:	10.22.19 13.45	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.27.19 10.30	Basis:	Wet Weight
Seq Number:	3105530			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.27.19 14.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.27.19 14.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.27.19 14.43	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	10.27.19 14.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.27.19 14.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.27.19 14.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.27.19 14.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	10.27.19 14.43	
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.27.19 14.43	

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LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**PH01C**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-004	Date Collected:	10.22.19 13.50	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.00	Basis:	Wet Weight
Seq Number:	3105376			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8.30**	5.00	mg/kg	10.24.19 20.26		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105463			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 14.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 14.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 14.58	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 14.58	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 14.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	10.24.19 14.58	
o-Terphenyl	84-15-1	104	%	70-135	10.24.19 14.58	

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LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**PH01C**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-004	Date Collected:	10.22.19 13.50	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.27.19 10.30	Basis:	Wet Weight
Seq Number:	3105530			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	10.27.19 15.03	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	10.27.19 15.03	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	10.27.19 15.03	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	10.27.19 15.03	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	10.27.19 15.03	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	10.27.19 15.03	U	1
Total BTEX		<0.00202	0.00202	mg/kg	10.27.19 15.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112	%	70-130	10.27.19 15.03	
1,4-Difluorobenzene	540-36-3	97	%	70-130	10.27.19 15.03	

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PLU Big Sinks 25 Federal Battery

Sample Id:	**PH01D**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-005	Date Collected:	10.22.19 13.55	Sample Depth:	5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.00	Basis:	Wet Weight
Seq Number:	3105376			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**7.72**	5.00	mg/kg	10.24.19 20.31		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105463			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.24.19 15.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.24.19 15.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.24.19 15.32	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.24.19 15.32	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.24.19 15.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	10.24.19 15.32	
o-Terphenyl	84-15-1	103	%	70-135	10.24.19 15.32	

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LT Environmental, Inc., Arvada, CO

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Sample Id:	**PH01D**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-005	Date Collected:	10.22.19 13.55	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.27.19 10.30	Basis:	Wet Weight
Seq Number:	3105530			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.27.19 15.23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.27.19 15.23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.27.19 15.23	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	10.27.19 15.23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.27.19 15.23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.27.19 15.23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.27.19 15.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.27.19 15.23	
4-Bromofluorobenzene	460-00-4	104	%	70-130	10.27.19 15.23	

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Sample Id:	**PH02**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-006	Date Collected:	10.22.19 14.10	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.00	Basis:	Wet Weight
Seq Number:	3105376			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	10.24.19 20.36	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105463			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.24.19 15.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.24.19 15.53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.24.19 15.53	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.24.19 15.53	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.24.19 15.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	10.24.19 15.53	
o-Terphenyl	84-15-1	99	%	70-135	10.24.19 15.53	

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Sample Id:	**PH02**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-006	Date Collected:	10.22.19 14.10	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.27.19 10.30	Basis:	Wet Weight
Seq Number:	3105530			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.27.19 15.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.27.19 15.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.27.19 15.43	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.27.19 15.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.27.19 15.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.27.19 15.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.27.19 15.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	110	%	70-130	10.27.19 15.43	
1,4-Difluorobenzene	540-36-3	102	%	70-130	10.27.19 15.43	

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Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-007	Date Collected:	10.22.19 14.15	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.00	Basis:	Wet Weight
Seq Number:	3105376			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5.08**	4.96	mg/kg	10.24.19 20.41		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105463			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 16.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 16.14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 16.14	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 16.14	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 16.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	10.24.19 16.14	
o-Terphenyl	84-15-1	100	%	70-135	10.24.19 16.14	

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LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-007	Date Collected:	10.22.19 14.15	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.27.19 10.30	Basis:	Wet Weight
Seq Number:	3105530			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	10.27.19 16.03	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	10.27.19 16.03	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	10.27.19 16.03	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	10.27.19 16.03	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	10.27.19 16.03	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	10.27.19 16.03	U	1
Total BTEX		<0.00198	0.00198	mg/kg	10.27.19 16.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	10.27.19 16.03	
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.27.19 16.03	

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PLU Big Sinks 25 Federal Battery

Sample Id:	**PH02B**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-008	Date Collected:	10.22.19 14.20	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.00	Basis:	Wet Weight
Seq Number:	3105376			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.04	5.04	mg/kg	10.24.19 20.46	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105463			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 16.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 16.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 16.35	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 16.35	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 16.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	10.24.19 16.35	
o-Terphenyl	84-15-1	102	%	70-135	10.24.19 16.35	

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LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**PH02B**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-008	Date Collected:	10.22.19 14.20	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.27.19 10.30	Basis:	Wet Weight
Seq Number:	3105530			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.27.19 16.23	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.27.19 16.23	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.27.19 16.23	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.27.19 16.23	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.27.19 16.23	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.27.19 16.23	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.27.19 16.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	70-130	10.27.19 16.23	
1,4-Difluorobenzene	540-36-3	100	%	70-130	10.27.19 16.23	

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PLU Big Sinks 25 Federal Battery

Sample Id:	**PH02C**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-009	Date Collected:	10.22.19 14.25	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.30	Basis:	Wet Weight
Seq Number:	3105377			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**23.4**	5.00	mg/kg	10.24.19 21.16		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105463			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.24.19 16.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.24.19 16.56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.24.19 16.56	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.24.19 16.56	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.24.19 16.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	10.24.19 16.56	
o-Terphenyl	84-15-1	102	%	70-135	10.24.19 16.56	

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Sample Id:	**PH02C**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-009	Date Collected:	10.22.19 14.25	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.27.19 10.30	Basis:	Wet Weight
Seq Number:	3105530			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	10.27.19 16.43	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	10.27.19 16.43	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	10.27.19 16.43	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	10.27.19 16.43	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	10.27.19 16.43	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	10.27.19 16.43	U	1
Total BTEX		<0.00202	0.00202	mg/kg	10.27.19 16.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	10.27.19 16.43	
4-Bromofluorobenzene	460-00-4	106	%	70-130	10.27.19 16.43	

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LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**PH02D**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-010	Date Collected:	10.22.19 14.30	Sample Depth:	5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.30	Basis:	Wet Weight
Seq Number:	3105377			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**29.4**	5.03	mg/kg	10.24.19 21.31		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105463			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	10.24.19 17.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	10.24.19 17.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	10.24.19 17.16	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	10.24.19 17.16	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	10.24.19 17.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	10.24.19 17.16	
o-Terphenyl	84-15-1	101	%	70-135	10.24.19 17.16	

Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**PH02D**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-010	Date Collected:	10.22.19 14.30	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.27.19 10.30	Basis:	Wet Weight
Seq Number:	3105530			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.27.19 17.03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.27.19 17.03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.27.19 17.03	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	10.27.19 17.03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.27.19 17.03	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.27.19 17.03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.27.19 17.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	98	%	70-130	10.27.19 17.03	
1,4-Difluorobenzene	540-36-3	101	%	70-130	10.27.19 17.03	

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LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-011	Date Collected:	10.22.19 16.20	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.30	Basis:	Wet Weight
Seq Number:	3105377			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.05	5.05	mg/kg	10.24.19 21.36	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105463			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 17.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 17.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 17.58	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 17.58	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 17.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	10.24.19 17.58	
o-Terphenyl	84-15-1	104	%	70-135	10.24.19 17.58	

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LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**BH01**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-011	Date Collected:	10.22.19 16.20	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.27.19 10.30	Basis:	Wet Weight
Seq Number:	3105530			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.27.19 18.22	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.27.19 18.22	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.27.19 18.22	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.27.19 18.22	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.27.19 18.22	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.27.19 18.22	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.27.19 18.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	10.27.19 18.22	
1,4-Difluorobenzene	540-36-3	97	%	70-130	10.27.19 18.22	

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LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**BH01A**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-012	Date Collected:	10.22.19 16.25	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.30	Basis:	Wet Weight
Seq Number:	3105377			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	10.24.19 21.41	U	1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105463			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 18.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 18.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 18.19	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 18.19	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 18.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	10.24.19 18.19	
o-Terphenyl	84-15-1	101	%	70-135	10.24.19 18.19	

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LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**BH01A**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-012	Date Collected:	10.22.19 16.25	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.27.19 10.30	Basis:	Wet Weight
Seq Number:	3105530			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.27.19 18.42	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.27.19 18.42	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.27.19 18.42	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.27.19 18.42	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.27.19 18.42	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.27.19 18.42	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.27.19 18.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	70-130	10.27.19 18.42	
1,4-Difluorobenzene	540-36-3	96	%	70-130	10.27.19 18.42	

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LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**BH01B**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-013	Date Collected:	10.22.19 16.30	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.30	Basis:	Wet Weight
Seq Number:	3105377			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**62.3**	4.99	mg/kg	10.24.19 21.46		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105463			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 18.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 18.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 18.41	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 18.41	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 18.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	10.24.19 18.41	
o-Terphenyl	84-15-1	105	%	70-135	10.24.19 18.41	

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LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**BH01B**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-013	Date Collected:	10.22.19 16.30	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.27.19 10.30	Basis:	Wet Weight
Seq Number:	3105530			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	10.27.19 19.02	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	10.27.19 19.02	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	10.27.19 19.02	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	10.27.19 19.02	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	10.27.19 19.02	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	10.27.19 19.02	U	1
Total BTEX		<0.00202	0.00202	mg/kg	10.27.19 19.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.27.19 19.02	
4-Bromofluorobenzene	460-00-4	105	%	70-130	10.27.19 19.02	

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LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**BH01C**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-014	Date Collected:	10.22.19 16.35	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.30	Basis:	Wet Weight
Seq Number:	3105377			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**40.3**	5.02	mg/kg	10.24.19 22.01		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105463			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.24.19 19.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.24.19 19.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.24.19 19.02	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.24.19 19.02	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.24.19 19.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	10.24.19 19.02	
o-Terphenyl	84-15-1	103	%	70-135	10.24.19 19.02	

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LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**BH01C**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-014	Date Collected:	10.22.19 16.35	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.27.19 10.30	Basis:	Wet Weight
Seq Number:	3105530			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.27.19 19.22	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.27.19 19.22	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.27.19 19.22	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.27.19 19.22	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.27.19 19.22	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.27.19 19.22	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.27.19 19.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.27.19 19.22	
4-Bromofluorobenzene	460-00-4	107	%	70-130	10.27.19 19.22	

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LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**BH01D**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-015	Date Collected:	10.22.19 16.40	Sample Depth:	5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.30	Basis:	Wet Weight
Seq Number:	3105377			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**18.1**	4.97	mg/kg	10.24.19 22.06		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105463			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 19.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 19.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 19.22	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 19.22	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 19.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	10.24.19 19.22	
o-Terphenyl	84-15-1	105	%	70-135	10.24.19 19.22	

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LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**BH01D**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-015	Date Collected:	10.22.19 16.40	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.27.19 10.30	Basis:	Wet Weight
Seq Number:	3105530			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.27.19 19.42	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.27.19 19.42	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.27.19 19.42	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.27.19 19.42	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.27.19 19.42	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.27.19 19.42	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.27.19 19.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	10.27.19 19.42	
4-Bromofluorobenzene	460-00-4	108	%	70-130	10.27.19 19.42	

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LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-016	Date Collected:	10.22.19 12.40	Sample Depth:	5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.30	Basis:	Wet Weight
Seq Number:	3105377			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**96.6**	4.95	mg/kg	10.24.19 22.11		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105463			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	10.24.19 19.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	10.24.19 19.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	10.24.19 19.43	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	10.24.19 19.43	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	10.24.19 19.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	10.24.19 19.43	
o-Terphenyl	84-15-1	107	%	70-135	10.24.19 19.43	

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LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-016	Date Collected:	10.22.19 12.40	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.27.19 10.30	Basis:	Wet Weight
Seq Number:	3105530			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	10.27.19 20.02	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	10.27.19 20.02	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	10.27.19 20.02	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	10.27.19 20.02	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	10.27.19 20.02	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	10.27.19 20.02	U	1
Total BTEX		<0.00198	0.00198	mg/kg	10.27.19 20.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	108	%	70-130	10.27.19 20.02	
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.27.19 20.02	

Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-017	Date Collected:	10.22.19 12.45	Sample Depth:	5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.30	Basis:	Wet Weight
Seq Number:	3105377			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1000**	4.95	mg/kg	10.24.19 22.16		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105463			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 20.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 20.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 20.04	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 20.04	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 20.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	10.24.19 20.04	
o-Terphenyl	84-15-1	104	%	70-135	10.24.19 20.04	

Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-017	Date Collected:	10.22.19 12.45	Sample Depth:	5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.27.19 10.30	Basis:	Wet Weight
Seq Number:	3105530			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.27.19 20.23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.27.19 20.23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.27.19 20.23	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.27.19 20.23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.27.19 20.23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.27.19 20.23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.27.19 20.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.27.19 20.23	
4-Bromofluorobenzene	460-00-4	105	%	70-130	10.27.19 20.23	

Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-018	Date Collected:	10.22.19 12.50	Sample Depth:	1 - 5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.30	Basis:	Wet Weight
Seq Number:	3105377			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1030**	4.95	mg/kg	10.24.19 22.21		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105463			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.24.19 20.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.24.19 20.25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.24.19 20.25	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.24.19 20.25	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.24.19 20.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	10.24.19 20.25	
o-Terphenyl	84-15-1	104	%	70-135	10.24.19 20.25	

Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**SW03**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-018	Date Collected:	10.22.19 12.50	Sample Depth:	1 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.27.19 10.30	Basis:	Wet Weight
Seq Number:	3105530			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.27.19 20.43	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.27.19 20.43	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.27.19 20.43	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.27.19 20.43	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.27.19 20.43	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.27.19 20.43	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.27.19 20.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	10.27.19 20.43	
1,4-Difluorobenzene	540-36-3	98	%	70-130	10.27.19 20.43	

Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-019	Date Collected:	10.22.19 12.55	Sample Depth:	1 - 5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.30	Basis:	Wet Weight
Seq Number:	3105377			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4430**	25.2	mg/kg	10.24.19 22.41		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105463			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 20.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 20.46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 20.46	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 20.46	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 20.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	10.24.19 20.46	
o-Terphenyl	84-15-1	105	%	70-135	10.24.19 20.46	

Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-019	Date Collected:	10.22.19 12.55	Sample Depth:	1 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.27.19 10.30	Basis:	Wet Weight
Seq Number:	3105530			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.27.19 21.03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.27.19 21.03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.27.19 21.03	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.27.19 21.03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.27.19 21.03	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.27.19 21.03	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.27.19 21.03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	103	%	70-130	10.27.19 21.03	
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.27.19 21.03	

Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-020	Date Collected:	10.22.19 13.00	Sample Depth:	1 - 5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.30	Basis:	Wet Weight
Seq Number:	3105377			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**633**	4.99	mg/kg	10.24.19 22.26		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105463			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.24.19 21.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.24.19 21.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.24.19 21.07	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.24.19 21.07	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.24.19 21.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	10.24.19 21.07	
o-Terphenyl	84-15-1	102	%	70-135	10.24.19 21.07	

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LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**SW02**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-020	Date Collected:	10.22.19 13.00	Sample Depth:	1 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.27.19 10.30	Basis:	Wet Weight
Seq Number:	3105530			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	10.27.19 21.23	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	10.27.19 21.23	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	10.27.19 21.23	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	10.27.19 21.23	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	10.27.19 21.23	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	10.27.19 21.23	U	1
Total BTEX		<0.00201	0.00201	mg/kg	10.27.19 21.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.27.19 21.23	
4-Bromofluorobenzene	460-00-4	105	%	70-130	10.27.19 21.23	

Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-021	Date Collected:	10.22.19 13.05	Sample Depth:	1 - 5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	10.24.19 14.30	Basis:	Wet Weight
Seq Number:	3105377			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**572**	4.98	mg/kg	10.24.19 22.46		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	10.24.19 11.00	Basis:	Wet Weight
Seq Number:	3105466			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.24.19 20.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.24.19 20.46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.24.19 20.46	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.24.19 20.46	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.24.19 20.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-135	10.24.19 20.46	
o-Terphenyl	84-15-1	82	%	70-135	10.24.19 20.46	

Certificate of Analytical Results 640781

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**SW04**	Matrix:	Soil	Date Received:	10.23.19 09.12
Lab Sample Id:	640781-021	Date Collected:	10.22.19 13.05	Sample Depth:	1 - 5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	KTL			% Moisture:	
Analyst:	KTL	Date Prep:	10.27.19 11.00	Basis:	Wet Weight
Seq Number:	3105532			SUB:	T104704400-19-19

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	10.28.19 00.41	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	10.28.19 00.41	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	10.28.19 00.41	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	10.28.19 00.41	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	10.28.19 00.41	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	10.28.19 00.41	U	1
Total BTEX		<0.00199	0.00199	mg/kg	10.28.19 00.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	10.28.19 00.41	
4-Bromofluorobenzene	460-00-4	102	%	70-130	10.28.19 00.41	

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

QC Summary 640781

LT Environmental, Inc.

PLU Big Sinks 25 Federal Battery

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3105376 Matrix: Solid Date Prep: 10.24.19
MB Sample Id: 7688862-1-BLK LCS Sample Id: 7688862-1-BKS LCSD Sample Id: 7688862-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	263	105	258	103	90-110	2	20	mg/kg	10.24.19 18:22	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3105377 Matrix: Solid Date Prep: 10.24.19
MB Sample Id: 7688863-1-BLK LCS Sample Id: 7688863-1-BKS LCSD Sample Id: 7688863-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	265	106	264	106	90-110	0	20	mg/kg	10.24.19 21:06	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3105376 Matrix: Soil Date Prep: 10.24.19
Parent Sample Id: 640895-022 MS Sample Id: 640895-022 S MSD Sample Id: 640895-022 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	32.6	249	299	107	296	106	90-110	1	20	mg/kg	10.24.19 18:37	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3105376 Matrix: Soil Date Prep: 10.24.19
Parent Sample Id: 640896-004 MS Sample Id: 640896-004 S MSD Sample Id: 640896-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	27.9	253	303	109	290	104	90-110	4	20	mg/kg	10.24.19 19:47	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3105377 Matrix: Soil Date Prep: 10.24.19
Parent Sample Id: 640781-009 MS Sample Id: 640781-009 S MSD Sample Id: 640781-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	23.4	250	303	112	305	113	90-110	1	20	mg/kg	10.24.19 21:21	X

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

QC Summary 640781

LT Environmental, Inc.

PLU Big Sinks 25 Federal Battery

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3105377 Matrix: Soil Date Prep: 10.24.19
Parent Sample Id: 640781-020 MS Sample Id: 640781-020 S MSD Sample Id: 640781-020 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	633	250	922	116	930	119	90-110	1	20	mg/kg	10.24.19 22:31	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3105463 Matrix: Solid Date Prep: 10.24.19
MB Sample Id: 7688840-1-BLK LCS Sample Id: 7688840-1-BKS LCSD Sample Id: 7688840-1-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	1140	114	1140	114	70-135	0	20	mg/kg	10.24.19 12:32	
Diesel Range Organics (DRO)	<15.0	1000	1110	111	1120	112	70-135	1	20	mg/kg	10.24.19 12:32	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		116		117		70-135	%	10.24.19 12:32
o-Terphenyl	103		117		117		70-135	%	10.24.19 12:32

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3105466 Matrix: Solid Date Prep: 10.24.19
MB Sample Id: 7688841-1-BLK LCS Sample Id: 7688841-1-BKS LCSD Sample Id: 7688841-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	983	98	981	98	70-135	0	20	mg/kg	10.24.19 12:32	
Diesel Range Organics (DRO)	<50.0	1000	927	93	1040	104	70-135	11	20	mg/kg	10.24.19 12:32	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		101		102		70-135	%	10.24.19 12:32
o-Terphenyl	99		101		100		70-135	%	10.24.19 12:32

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3105463 Matrix: Solid Date Prep: 10.24.19
MB Sample Id: 7688840-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.24.19 12:11	

MS/MSD Percent Recovery [D] = 100*(C-A) / B LCS = Laboratory Control Sample MS = Matrix Spike
Relative Percent Difference RPD = 200* | (C-E) / (C+E) | A = Parent Result B = Spike Added
LCS/LCSD Recovery [D] = 100 * (C) / [B] C = MS/LCS Result D = MSD/LCSD % Rec
Log Difference Log Diff. = Log(Sample Duplicate) - Log(Original Sample) E = MSD/LCSD Result

QC Summary 640781

LT Environmental, Inc.

PLU Big Sinks 25 Federal Battery

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3105466 | Matrix: Solid | Date Prep: 10.24.19
MB Sample Id: 7688841-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.24.19 12:11	

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3105463 | Matrix: Soil | Date Prep: 10.24.19
Parent Sample Id: 640781-001 | MS Sample Id: 640781-001 S | MSD Sample Id: 640781-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	999	1100	110	1150	115	70-135	4	20	mg/kg	10.24.19 13:34	
Diesel Range Organics (DRO)	<15.0	999	1120	112	1170	117	70-135	4	20	mg/kg	10.24.19 13:34	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		109		70-135	%	10.24.19 13:34
o-Terphenyl	102		105		70-135	%	10.24.19 13:34

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3105466 | Matrix: Soil | Date Prep: 10.24.19
Parent Sample Id: 640827-001 | MS Sample Id: 640827-001 S | MSD Sample Id: 640827-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	997	975	98	965	97	70-135	1	20	mg/kg	10.24.19 13:34	
Diesel Range Organics (DRO)	22.3	997	924	90	899	88	70-135	3	20	mg/kg	10.24.19 13:34	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	91		89		70-135	%	10.24.19 13:34
o-Terphenyl	86		84		70-135	%	10.24.19 13:34

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

QC Summary 640781

LT Environmental, Inc.

PLU Big Sinks 25 Federal Battery

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3105530 — Matrix: Solid — Date Prep: 10.27.19
MB Sample Id: 7688948-1-BLK — LCS Sample Id: 7688948-1-BKS — LCSD Sample Id: 7688948-1-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	0.120	120	70-130	7	35	mg/kg	10.27.19 12:03	
Toluene	<0.00200	0.100	0.110	110	0.111	111	70-130	1	35	mg/kg	10.27.19 12:03	
Ethylbenzene	<0.00200	0.100	0.115	115	0.112	112	70-130	3	35	mg/kg	10.27.19 12:03	
m,p-Xylenes	<0.00400	0.200	0.234	117	0.226	113	70-130	3	35	mg/kg	10.27.19 12:03	
o-Xylene	<0.00200	0.100	0.114	114	0.111	111	70-130	3	35	mg/kg	10.27.19 12:03	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		97		99		70-130	%	10.27.19 12:03
4-Bromofluorobenzene	99		109		98		70-130	%	10.27.19 12:03

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3105532 — Matrix: Solid — Date Prep: 10.27.19
MB Sample Id: 7688950-1-BLK — LCS Sample Id: 7688950-1-BKS — LCSD Sample Id: 7688950-1-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	0.108	108	0.108	108	70-130	0	35	mg/kg	10.27.19 22:41	
Toluene	<0.00200	0.100	0.102	102	0.100	100	70-130	2	35	mg/kg	10.27.19 22:41	
Ethylbenzene	<0.00200	0.100	0.103	103	0.0998	100	70-130	3	35	mg/kg	10.27.19 22:41	
m,p-Xylenes	<0.00400	0.200	0.207	104	0.200	100	70-130	3	35	mg/kg	10.27.19 22:41	
o-Xylene	<0.00200	0.100	0.103	103	0.100	100	70-130	3	35	mg/kg	10.27.19 22:41	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	94		97		98		70-130	%	10.27.19 22:41
4-Bromofluorobenzene	95		104		98		70-130	%	10.27.19 22:41

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5030B
Seq Number: 3105530 — Matrix: Soil — Date Prep: 10.27.19
Parent Sample Id: 640781-001 — MS Sample Id: 640781-001 S — MSD Sample Id: 640781-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.108	107	0.124	124	70-130	14	35	mg/kg	10.27.19 12:43	
Toluene	<0.00201	0.101	0.0996	99	0.113	113	70-130	13	35	mg/kg	10.27.19 12:43	
Ethylbenzene	<0.00201	0.101	0.0994	98	0.112	112	70-130	12	35	mg/kg	10.27.19 12:43	
m,p-Xylenes	<0.00402	0.201	0.201	100	0.226	113	70-130	12	35	mg/kg	10.27.19 12:43	
o-Xylene	<0.00201	0.101	0.0994	98	0.111	111	70-130	11	35	mg/kg	10.27.19 12:43	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		102		70-130	%	10.27.19 12:43
4-Bromofluorobenzene	101		107		70-130	%	10.27.19 12:43

MS/MSD Percent Recovery	[D] = 100*(C-A) / B	LCS = Laboratory Control Sample	MS = Matrix Spike
Relative Percent Difference	RPD = 200* | (C-E) / (C+E) |	A = Parent Result	B = Spike Added
LCS/LCSD Recovery	[D] = 100 * (C) / [B]	C = MS/LCS Result	D = MSD/LCSD % Rec
Log Difference	Log Diff. = Log(Sample Duplicate) - Log(Original Sample)	E = MSD/LCSD Result	

QC Summary 640781

LT Environmental, Inc.

PLU Big Sinks 25 Federal Battery

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3105532 Matrix: Soil Date Prep: 10.27.19

Parent Sample Id: 640781-021 MS Sample Id: 640781-021 S MSD Sample Id: 640781-021 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	0.0940	94	0.0880	87	70-130	7	35	mg/kg	10.27.19 23:22	
Toluene	<0.00200	0.100	0.0852	85	0.0782	77	70-130	9	35	mg/kg	10.27.19 23:22	
Ethylbenzene	<0.00200	0.100	0.0871	87	0.0778	77	70-130	11	35	mg/kg	10.27.19 23:22	
m,p-Xylenes	<0.00401	0.200	0.174	87	0.154	76	70-130	12	35	mg/kg	10.27.19 23:22	
o-Xylene	<0.00200	0.100	0.0910	91	0.0804	80	70-130	12	35	mg/kg	10.27.19 23:22	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		101		70-130	%	10.27.19 23:22
4-Bromofluorobenzene	110		98		70-130	%	10.27.19 23:22

MS/MSD Percent Recovery	[D] = 100*(C-A) / B	LCS = Laboratory Control Sample	MS = Matrix Spike
Relative Percent Difference	RPD = 200* | (C-E) / (C+E) |	A = Parent Result	B = Spike Added
LCS/LCSD Recovery	[D] = 100 * (C) / [B]	C = MS/LCS Result	D = MSD/LCSD % Rec
Log Difference	Log Diff. = Log(Sample Duplicate) - Log(Original Sample)	E = MSD/LCSD Result	

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 Crasbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701
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Work Order No: 640781

Page 1 of 3

Project Manager:	Dan Moir	Bill to: (if different)	~~XTO~~ Kyle Littrell
Company Name:	LTE Environmental	Company Name:	XTO
Address:	3300 North A Steet	Address:	3104 E Green Street
City, State ZIP:	Midland, Texas, 79705	City, State ZIP:	Carlsbad, NM, 88220
Phone:	432.236.3849	Email:	slo@ltenv.com dmoir@ltenv.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	PLU Big Sinks 25 Federal Battery	Turn Around	
Project Number:	2RP-4398	Routine ☑	
Project Location		Rush:	
Sampler's Name:		Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT			
Temp Blank:	Yes / No	Wet Ice:	Yes / No
Temperature (°C):	4.0	Thermometer ID	TNM007
Received Intact:	Yes / No		
Cooler Custody Seals:	Yes / No / N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes / No / N/A	Total Containers:	21

ANALYSIS REQUEST

Preservative Codes: MeOH: Me; None: NO; HNO3: HN; H2S04: H2; HCL: HL; NaOH: Na; Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Pres. Code	TPH (EPA 8015)	Chlorides (EPA 300)	BTEX (EPA 8021)	Sample Comments
	PH01	S	10.22.19	1335	1'	1		X	X	X	
	PH01A			1340	2'						
	PH01B			1345	3'						
	PH01C			1350	4'						
	PH01D			1355	5'						
	PH02			1410	1'						
	PH02A			1415	2'						
	PH02B			1420	3'						
	PH02C			1425	4'						
	PH02D	↓	↓	1430	5'	↓		↓	↓	↓	

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 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 **1631 / 245.1 / 7470 / 7471** : Hg

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)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
	Cashop	10/23/19 09:12	2		
			4		
			6		

Revised Date 022619 Rev. 2019.1

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 Craslbad, NM (432) 704-5440
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Work Order No: 1040781

Page 2 of 3

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	CT Environmental	Company Name:	XTO
Address:	3300 North A Street	Address:	3104 E Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.236.3849	Email:	Sla@ctenv.com, dmoir@ctenv.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	PLU Big Sinks 25 Federal Battery	Turn Around	
Project Number:	2RP-4396	Routine ☑	
Project Location		Rush:	
Sampler's Name:		Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT	Temp Blank: Yes No	Wet Ice: Yes No	
Temperature (°C):		Thermometer ID	
Received Intact:	Yes No		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	
Sample Custody Seals:	Yes No N/A	Total Containers:	

ANALYSIS REQUEST

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Pres. Code	TPH (EPA 8015)	Chlorides (EPA 300)	BTEX (EPA 8021)	Sample Comments
	BH01	S	10.22.19	1620	1'	x		x	x	x	
	BH01A			1625	2'						
	BH01B			1630	3'						
	BH01C			1635	4'						
	BH01D			1640	5'						
	FS01			1240	5'						
	FS02			1245	5'						
	SW03			1250	1-5'						
	SW01			1255	1-5'						
	SW02	↓	↓	1300	1-5'	↓		↓	↓	↓	

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 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

1631 / 245.1 / 7470 / 7471 : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
	Cortez	10/23/19 0912	2		
			4		
			6		

Revised Date 022619 Rev. 2019.1

XENCO LABORATORIES

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 Craslbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

Work Order No: 640781

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Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental	Company Name:	XTO
Address:	3300 North A street	Address:	3104 E Green Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.236.3849	Email:	slo@ltenv.com, dmoir@ltenv.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	PLU Big Sinks 25 federal Battery	Turn Around	
Project Number:	2RP-4398	Routine	☒
Project Location		Rush:	
Sampler's Name:		Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT	Temp Blank:	Yes No	Wet Ice:	Yes No
Temperature (°C):			Thermometer ID	
Received Intact:	Yes No			
Cooler Custody Seals:	Yes No N/A		Correction Factor:	
Sample Custody Seals:	Yes No N/A		Total Containers:	

ANALYSIS REQUEST

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	Chlorides (EPA 300)	BTEX (EPA 8021)	Sample Comments
	SW04	S	10-22-19	1305	1-5'	x	x	x	x	

Preservative Codes
MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

TAT starts the day recevied by the lab, if received by 4:00pm

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 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 **1631 / 245.1 / 7470 / 7471** : Hg

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)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 [signature]	[signature]	10/23/19 09:12	2		
3			4		
5			6		

Revised Date 022619 Rev. 2019.1

Inter-Office Shipment

IOS Number **50698**

Date/Time: 10/23/19 14:02
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 776797683616

Please send report to: Jessica Kramer
Address: 1089 N Canal Street
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
640781-001	S	PH01	10/22/19 13:35	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PI	
640781-001	S	PH01	10/22/19 13:35	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-001	S	PH01	10/22/19 13:35	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-002	S	PH01A	10/22/19 13:40	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-002	S	PH01A	10/22/19 13:40	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-002	S	PH01A	10/22/19 13:40	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PI	
640781-003	S	PH01B	10/22/19 13:45	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PI	
640781-003	S	PH01B	10/22/19 13:45	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-003	S	PH01B	10/22/19 13:45	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-004	S	PH01C	10/22/19 13:50	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-004	S	PH01C	10/22/19 13:50	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PI	
640781-004	S	PH01C	10/22/19 13:50	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-005	S	PH01D	10/22/19 13:55	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-005	S	PH01D	10/22/19 13:55	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PI	
640781-005	S	PH01D	10/22/19 13:55	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-006	S	PH02	10/22/19 14:10	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-006	S	PH02	10/22/19 14:10	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PI	
640781-006	S	PH02	10/22/19 14:10	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-007	S	PH02A	10/22/19 14:15	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PI	
640781-007	S	PH02A	10/22/19 14:15	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-007	S	PH02A	10/22/19 14:15	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-008	S	PH02B	10/22/19 14:20	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PI	
640781-008	S	PH02B	10/22/19 14:20	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-008	S	PH02B	10/22/19 14:20	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-009	S	PH02C	10/22/19 14:25	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PI	

Inter-Office Shipment

IOS Number **50698**

Date/Time: 10/23/19 14:02
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 776797683616

Please send report to: Jessica Kramer
Address: 1089 N Canal Street
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
640781-009	S	PH02C	10/22/19 14:25	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-009	S	PH02C	10/22/19 14:25	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-010	S	PH02D	10/22/19 14:30	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-010	S	PH02D	10/22/19 14:30	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PI	
640781-010	S	PH02D	10/22/19 14:30	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-011	S	BH01	10/22/19 16:20	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PI	
640781-011	S	BH01	10/22/19 16:20	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-011	S	BH01	10/22/19 16:20	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-012	S	BH01A	10/22/19 16:25	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-012	S	BH01A	10/22/19 16:25	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-012	S	BH01A	10/22/19 16:25	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PI	
640781-013	S	BH01B	10/22/19 16:30	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-013	S	BH01B	10/22/19 16:30	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-013	S	BH01B	10/22/19 16:30	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PI	
640781-014	S	BH01C	10/22/19 16:35	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-014	S	BH01C	10/22/19 16:35	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-014	S	BH01C	10/22/19 16:35	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PI	
640781-015	S	BH01D	10/22/19 16:40	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PI	
640781-015	S	BH01D	10/22/19 16:40	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-015	S	BH01D	10/22/19 16:40	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-016	S	FS01	10/22/19 12:40	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PI	
640781-016	S	FS01	10/22/19 12:40	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-016	S	FS01	10/22/19 12:40	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-017	S	FS02	10/22/19 12:45	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-017	S	FS02	10/22/19 12:45	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	

Inter Office Shipment or Sample Comments:

Inter-Office Shipment

IOS Number **50698**

Date/Time: 10/23/19 14:02
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 776797683616

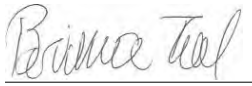
Please send report to: Jessica Kramer
Address: 1089 N Canal Street
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
640781-017	S	FS02	10/22/19 12:45	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PI	
640781-018	S	SW03	10/22/19 12:50	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PI	
640781-018	S	SW03	10/22/19 12:50	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-018	S	SW03	10/22/19 12:50	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-019	S	SW01	10/22/19 12:55	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-019	S	SW01	10/22/19 12:55	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PI	
640781-019	S	SW01	10/22/19 12:55	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-020	S	SW02	10/22/19 13:00	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	
640781-020	S	SW02	10/22/19 13:00	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PI	
640781-020	S	SW02	10/22/19 13:00	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-021	S	SW04	10/22/19 13:05	SW8021B	BTEX by EPA 8021B	10/29/19	11/05/19	JKR	BR4FBZ BZ BZME EBZ X	
640781-021	S	SW04	10/22/19 13:05	SW8015MOD_NM	TPH by SW8015 Mod	10/29/19	11/05/19	JKR	GRO-DRO PHCC10C28 PI	
640781-021	S	SW04	10/22/19 13:05	E300_CL	Chloride by EPA 300	10/29/19	04/19/20	JKR	CL	

Inter Office Shipment or Sample Comments:

Relinquished By: 
Elizabeth McClellan

Date Relinquished: 10/23/2019

Received By: 
Brianna Teel

Date Received: 10/24/2019 11:18

Cooler Temperature: 0.6

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 50698

Acceptable Temperature Range: 0 - 6 degC
Air and Metal samples Acceptable Range: Ambient
Temperature Measuring device used : R8

Sent By: Elizabeth McClellan **Date Sent:** 10/23/2019 02:02 PM

Received By: Brianna Teel **Date Received:** 10/24/2019 11:18 AM

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	.6	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received with appropriate temperature?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 *Custody Seals Signed and dated for Containers/coolers	**Yes**	
#6 *IOS present?	**Yes**	
#7 Any missing/extra samples?	**No**	
#8 IOS agrees with sample label(s)/matrix?	**Yes**	
#9 Sample matrix/ properties agree with IOS?	**Yes**	
#10 Samples in proper container/ bottle?	**Yes**	
#11 Samples properly preserved?	**Yes**	
#12 Sample container(s) intact?	**Yes**	
#13 Sufficient sample amount for indicated test(s)?	**Yes**	
#14 All samples received within hold time?	**Yes**	

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ **Contacted by :** _____ **Date:** _____

Checklist reviewed by: Brianna Teel Date: 10/24/2019

Brianna Teel

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10/23/2019 09:12:00 AM

Work Order #: 640781

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)?	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**	
#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**	Subbed to Midland.
#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: 10/23/2019

Checklist reviewed by: Jessica Kramer Date: 10/24/2019

Jessica Kramer

Analytical Report 647383

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU Big Sink 25 Federal Batterry

012919149

12.24.2019

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)

12.24.2019

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

Reference: XENCO Report No(s): **647383**
PLU Big Sink 25 Federal Batterry
Project Address: Eddy County

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) 647383. 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. 647383 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

Jessica Kramer
Project Assistant

A Small Business and Minority Company

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

Sample Cross Reference 647383

LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Batterry

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH04	S	12.20.2019 12:35	2 ft	647383-001
PH04A	S	12.20.2019 12:43	2.5 ft	647383-002
PH06	S	12.20.2019 11:48	2 ft	647383-003
PH06A	S	12.20.2019 11:52	3 ft	647383-004
PH07	S	12.20.2019 11:34	2 ft	647383-005
PH07A	S	12.20.2019 11:36	3.5 ft	647383-006
PH08	S	12.20.2019 11:17	2 ft	647383-007
PH08A	S	12.20.2019 11:23	3.5 ft	647383-008

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU Big Sink 25 Federal Batterry

Project ID: *012919149*
Work Order Number(s): *647383*

Report Date: *12.24.2019*
Date Received: *12.23.2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3111553 BTEX by EPA 8021B

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

Batch: LBA-3111556 Chloride by EPA 300

Lab Sample ID 647387-003 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: 647383-001, -002, -003, -004, -005, -006, -007, -008.

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

Certificate of Analysis Summary 647383

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sink 25 Federal Batterry

Project Id: 012919149
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Mon 12.23.2019 11:00
Report Date: 12.24.2019 11:57
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	647383-001		647383-002		647383-003		647383-004		647383-005		647383-006	
	Field Id:	PH04		PH04A		PH06		PH06A		PH07		PH07A	
	Depth:	2- ft		2.5- ft		2- ft		3- ft		2- ft		3.5- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	12.20.2019 12:35		12.20.2019 12:43		12.20.2019 11:48		12.20.2019 11:52		12.20.2019 11:34		12.20.2019 11:36	
BTEX by EPA 8021B	***Extracted:***	12.23.2019 12:00		12.23.2019 12:00		12.23.2019 12:00		12.23.2019 12:00		12.23.2019 12:00		12.23.2019 12:00	
	Analyzed:	12.23.2019 17:47		12.23.2019 18:06		12.23.2019 18:25		12.23.2019 18:44		12.23.2019 19:03		12.23.2019 19:22	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
Toluene		<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
Ethylbenzene		<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
m,p-Xylenes		<0.00396	0.00396	<0.00398	0.00398	<0.00398	0.00398	<0.00399	0.00399	<0.00398	0.00398	<0.00400	0.00400
o-Xylene		<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
Total Xylenes		<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
Total BTEX		<0.00198	0.00198	<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
Chloride by EPA 300	***Extracted:***	12.23.2019 13:11		12.23.2019 13:11		12.23.2019 13:11		12.23.2019 13:11		12.23.2019 13:11		12.23.2019 13:11	
	Analyzed:	12.23.2019 16:54		12.23.2019 17:11		12.23.2019 17:17		12.23.2019 17:22		12.23.2019 17:28		12.23.2019 17:46	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		6740	100	5460	99.9	932	49.5	567	9.98	903	49.4	1360	49.3
TPH by SW8015 Mod	***Extracted:***	12.23.2019 15:00		12.23.2019 15:00		12.23.2019 15:00		12.23.2019 15:00		12.23.2019 15:00		12.23.2019 15:00	
	Analyzed:	12.23.2019 18:25		12.23.2019 19:05		12.23.2019 19:05		12.23.2019 19:24		12.23.2019 19:24		12.23.2019 19:44	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<49.9	49.9	<49.8	49.8	<50.3	50.3	<50.0	50.0	<50.1	50.1
Diesel Range Organics (DRO)		<49.9	49.9	<49.9	49.9	<49.8	49.8	<50.3	50.3	<50.0	50.0	<50.1	50.1
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<49.9	49.9	<49.8	49.8	<50.3	50.3	<50.0	50.0	<50.1	50.1
Total GRO-DRO		<49.9	49.9	<49.9	49.9	<49.8	49.8	<50.3	50.3	<50.0	50.0	<50.1	50.1
Total TPH		<49.9	49.9	<49.9	49.9	<49.8	49.8	<50.3	50.3	<50.0	50.0	<50.1	50.1

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

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 647383

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sink 25 Federal Batterry

Project Id: 012919149
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Mon 12.23.2019 11:00
Report Date: 12.24.2019 11:57
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	647383-007		647383-008					
	Field Id:	PH08		PH08A					
	Depth:	2- ft		3.5- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	12.20.2019 11:17		12.20.2019 11:23					
BTEX by EPA 8021B	***Extracted:***	12.23.2019 12:00		12.23.2019 12:00					
	Analyzed:	12.23.2019 19:41		12.23.2019 20:00					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00199	0.00199	<0.00198	0.00198				
Toluene		<0.00199	0.00199	<0.00198	0.00198				
Ethylbenzene		<0.00199	0.00199	<0.00198	0.00198				
m,p-Xylenes		<0.00398	0.00398	<0.00396	0.00396				
o-Xylene		<0.00199	0.00199	<0.00198	0.00198				
Total Xylenes		<0.00199	0.00199	<0.00198	0.00198				
Total BTEX		<0.00199	0.00199	<0.00198	0.00198				
Chloride by EPA 300	***Extracted:***	12.23.2019 13:11		12.23.2019 13:11					
	Analyzed:	12.23.2019 17:51		12.23.2019 17:57					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		1190	49.6	1270	49.9				
TPH by SW8015 Mod	***Extracted:***	12.23.2019 15:00		12.23.2019 15:00					
	Analyzed:	12.23.2019 19:44		12.23.2019 20:04					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1	<49.9	49.9				
Diesel Range Organics (DRO)		<50.1	50.1	<49.9	49.9				
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1	<49.9	49.9				
Total GRO-DRO		<50.1	50.1	<49.9	49.9				
Total TPH		<50.1	50.1	<49.9	49.9				

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Jessica Kramer
Project Assistant

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LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Batterry

Sample Id:	**PH04**	Matrix:	Soil	Date Received:	12.23.2019 11:00
Lab Sample Id:	647383-001	Date Collected:	12.20.2019 12:35	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.23.2019 13:11	Basis:	Wet Weight
Seq Number:	3111556				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6740**	100	mg/kg	12.23.2019 16:54		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.23.2019 15:00	Basis:	Wet Weight
Seq Number:	3111593				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.23.2019 18:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.23.2019 18:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.23.2019 18:25	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.23.2019 18:25	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.23.2019 18:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	12.23.2019 18:25	
o-Terphenyl	84-15-1	99	%	70-135	12.23.2019 18:25	

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PLU Big Sink 25 Federal Batterry

Sample Id:	**PH04**	Matrix:	Soil	Date Received:	12.23.2019 11:00
Lab Sample Id:	647383-001	Date Collected:	12.20.2019 12:35	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.23.2019 12:00	Basis:	Wet Weight
Seq Number:	3111553				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.23.2019 17:47	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.23.2019 17:47	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.23.2019 17:47	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.23.2019 17:47	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.23.2019 17:47	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.23.2019 17:47	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.23.2019 17:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.23.2019 17:47	
4-Bromofluorobenzene	460-00-4	112	%	70-130	12.23.2019 17:47	

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LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Batterry

Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	12.23.2019 11:00
Lab Sample Id:	647383-002	Date Collected:	12.20.2019 12:43	Sample Depth:	2.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.23.2019 13:11	Basis:	Wet Weight
Seq Number:	3111556				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**5460**	99.9	mg/kg	12.23.2019 17:11		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.23.2019 15:00	Basis:	Wet Weight
Seq Number:	3111593				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.23.2019 19:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.23.2019 19:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.23.2019 19:05	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.23.2019 19:05	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.23.2019 19:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	12.23.2019 19:05	
o-Terphenyl	84-15-1	103	%	70-135	12.23.2019 19:05	

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LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Batterry

Sample Id:	**PH04A**	Matrix:	Soil	Date Received:	12.23.2019 11:00
Lab Sample Id:	647383-002	Date Collected:	12.20.2019 12:43	Sample Depth:	2.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.23.2019 12:00	Basis:	Wet Weight
Seq Number:	3111553				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.23.2019 18:06	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.23.2019 18:06	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.23.2019 18:06	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.23.2019 18:06	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.23.2019 18:06	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.23.2019 18:06	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.23.2019 18:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	124	%	70-130	12.23.2019 18:06	
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.23.2019 18:06	

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PLU Big Sink 25 Federal Batterry

Sample Id:	**PH06**	Matrix:	Soil	Date Received:	12.23.2019 11:00
Lab Sample Id:	647383-003	Date Collected:	12.20.2019 11:48	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.23.2019 13:11	Basis:	Wet Weight
Seq Number:	3111556				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**932**	49.5	mg/kg	12.23.2019 17:17		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.23.2019 15:00	Basis:	Wet Weight
Seq Number:	3111593				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.23.2019 19:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.23.2019 19:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.23.2019 19:05	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	12.23.2019 19:05	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.23.2019 19:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	12.23.2019 19:05	
o-Terphenyl	84-15-1	96	%	70-135	12.23.2019 19:05	

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LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Batterry

Sample Id:	**PH06**	Matrix:	Soil	Date Received:	12.23.2019 11:00
Lab Sample Id:	647383-003	Date Collected:	12.20.2019 11:48	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.23.2019 12:00	Basis:	Wet Weight
Seq Number:	3111553				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.23.2019 18:25	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.23.2019 18:25	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.23.2019 18:25	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.23.2019 18:25	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.23.2019 18:25	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.23.2019 18:25	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.23.2019 18:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	70-130	12.23.2019 18:25	
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.23.2019 18:25	

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Sample Id:	**PH06A**	Matrix:	Soil	Date Received:	12.23.2019 11:00
Lab Sample Id:	647383-004	Date Collected:	12.20.2019 11:52	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.23.2019 13:11	Basis:	Wet Weight
Seq Number:	3111556				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**567**	9.98	mg/kg	12.23.2019 17:22		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.23.2019 15:00	Basis:	Wet Weight
Seq Number:	3111593				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.23.2019 19:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.23.2019 19:24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.23.2019 19:24	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	12.23.2019 19:24	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	12.23.2019 19:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	12.23.2019 19:24	
o-Terphenyl	84-15-1	103	%	70-135	12.23.2019 19:24	

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LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Batterry

Sample Id:	**PH06A**	Matrix:	Soil	Date Received:	12.23.2019 11:00
Lab Sample Id:	647383-004	Date Collected:	12.20.2019 11:52	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.23.2019 12:00	Basis:	Wet Weight
Seq Number:	3111553				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.23.2019 18:44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.23.2019 18:44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.23.2019 18:44	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.23.2019 18:44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.23.2019 18:44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.23.2019 18:44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.23.2019 18:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.23.2019 18:44	
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.23.2019 18:44	

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LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Batterry

Sample Id:	**PH07**	Matrix:	Soil	Date Received:	12.23.2019 11:00
Lab Sample Id:	647383-005	Date Collected:	12.20.2019 11:34	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.23.2019 13:11	Basis:	Wet Weight
Seq Number:	3111556				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**903**	49.4	mg/kg	12.23.2019 17:28		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.23.2019 15:00	Basis:	Wet Weight
Seq Number:	3111593				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.23.2019 19:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.23.2019 19:24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.23.2019 19:24	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.23.2019 19:24	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.23.2019 19:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	12.23.2019 19:24	
o-Terphenyl	84-15-1	96	%	70-135	12.23.2019 19:24	

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PLU Big Sink 25 Federal Batterry

Sample Id:	**PH07**	Matrix:	Soil	Date Received:	12.23.2019 11:00
Lab Sample Id:	647383-005	Date Collected:	12.20.2019 11:34	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.23.2019 12:00	Basis:	Wet Weight
Seq Number:	3111553				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.23.2019 19:03	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.23.2019 19:03	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.23.2019 19:03	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.23.2019 19:03	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.23.2019 19:03	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.23.2019 19:03	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.23.2019 19:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.23.2019 19:03	
4-Bromofluorobenzene	460-00-4	123	%	70-130	12.23.2019 19:03	

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Sample Id:	**PH07A**	Matrix:	Soil	Date Received:	12.23.2019 11:00
Lab Sample Id:	647383-006	Date Collected:	12.20.2019 11:36	Sample Depth:	3.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.23.2019 13:11	Basis:	Wet Weight
Seq Number:	3111556				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1360**	49.3	mg/kg	12.23.2019 17:46		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.23.2019 15:00	Basis:	Wet Weight
Seq Number:	3111593				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.23.2019 19:44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.23.2019 19:44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.23.2019 19:44	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	12.23.2019 19:44	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.23.2019 19:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.23.2019 19:44	
o-Terphenyl	84-15-1	103	%	70-135	12.23.2019 19:44	

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Sample Id:	**PH07A**	Matrix:	Soil	Date Received:	12.23.2019 11:00
Lab Sample Id:	647383-006	Date Collected:	12.20.2019 11:36	Sample Depth:	3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.23.2019 12:00	Basis:	Wet Weight
Seq Number:	3111553				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.23.2019 19:22	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.23.2019 19:22	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.23.2019 19:22	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.23.2019 19:22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.23.2019 19:22	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.23.2019 19:22	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.23.2019 19:22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.23.2019 19:22	
4-Bromofluorobenzene	460-00-4	122	%	70-130	12.23.2019 19:22	

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Sample Id:	**PH08**	Matrix:	Soil	Date Received:	12.23.2019 11:00
Lab Sample Id:	647383-007	Date Collected:	12.20.2019 11:17	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.23.2019 13:11	Basis:	Wet Weight
Seq Number:	3111556				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1190**	49.6	mg/kg	12.23.2019 17:51		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.23.2019 15:00	Basis:	Wet Weight
Seq Number:	3111593				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.23.2019 19:44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.23.2019 19:44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.23.2019 19:44	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	12.23.2019 19:44	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.23.2019 19:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	12.23.2019 19:44	
o-Terphenyl	84-15-1	95	%	70-135	12.23.2019 19:44	

Certificate of Analytical Results 647383

LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Batterry

Sample Id:	**PH08**	Matrix:	Soil	Date Received:	12.23.2019 11:00
Lab Sample Id:	647383-007	Date Collected:	12.20.2019 11:17	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.23.2019 12:00	Basis:	Wet Weight
Seq Number:	3111553				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.23.2019 19:41	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.23.2019 19:41	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.23.2019 19:41	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.23.2019 19:41	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.23.2019 19:41	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.23.2019 19:41	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.23.2019 19:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.23.2019 19:41	
4-Bromofluorobenzene	460-00-4	123	%	70-130	12.23.2019 19:41	

Certificate of Analytical Results 647383

LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Batterry

Sample Id:	**PH08A**	Matrix:	Soil	Date Received:	12.23.2019 11:00
Lab Sample Id:	647383-008	Date Collected:	12.20.2019 11:23	Sample Depth:	3.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.23.2019 13:11	Basis:	Wet Weight
Seq Number:	3111556				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1270**	49.9	mg/kg	12.23.2019 17:57		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	12.23.2019 15:00	Basis:	Wet Weight
Seq Number:	3111593				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.23.2019 20:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.23.2019 20:04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.23.2019 20:04	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.23.2019 20:04	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.23.2019 20:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.23.2019 20:04	
o-Terphenyl	84-15-1	102	%	70-135	12.23.2019 20:04	

Certificate of Analytical Results 647383

LT Environmental, Inc., Arvada, CO

PLU Big Sink 25 Federal Batterry

Sample Id:	**PH08A**	Matrix:	Soil	Date Received:	12.23.2019 11:00
Lab Sample Id:	647383-008	Date Collected:	12.20.2019 11:23	Sample Depth:	3.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	12.23.2019 12:00	Basis:	Wet Weight
Seq Number:	3111553				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.23.2019 20:00	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.23.2019 20:00	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.23.2019 20:00	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.23.2019 20:00	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.23.2019 20:00	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.23.2019 20:00	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.23.2019 20:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.23.2019 20:00	
4-Bromofluorobenzene	460-00-4	123	%	70-130	12.23.2019 20:00	

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

QC Summary 647383

LT Environmental, Inc.

PLU Big Sink 25 Federal Batterry

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3111556 — Matrix: Solid — Date Prep: 12.23.2019
MB Sample Id: 7693186-1-BLK — LCS Sample Id: 7693186-1-BKS — LCSD Sample Id: 7693186-1-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	274	110	275	110	90-110	0	20	mg/kg	12.23.2019 19:53	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3111556 — Matrix: Soil — Date Prep: 12.23.2019
Parent Sample Id: 647383-001 — MS Sample Id: 647383-001 S — MSD Sample Id: 647383-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6740	201	6860	60	6850	55	90-110	0	20	mg/kg	12.23.2019 16:59	X

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3111556 — Matrix: Soil — Date Prep: 12.23.2019
Parent Sample Id: 647387-003 — MS Sample Id: 647387-003 S — MSD Sample Id: 647387-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	102	198	311	106	309	105	90-110	1	20	mg/kg	12.23.2019 18:20	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3111593 — Matrix: Solid — Date Prep: 12.23.2019
MB Sample Id: 7693201-1-BLK — LCS Sample Id: 7693201-1-BKS — LCSD Sample Id: 7693201-1-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)	<13.9	1000	1190	119	1250	125	70-135	5	35	mg/kg	12.23.2019 18:05	
Diesel Range Organics (DRO)	<11.5	1000	1200	120	1250	125	70-135	4	35	mg/kg	12.23.2019 18:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		116		129		70-135	%	12.23.2019 18:05
o-Terphenyl	100		110		126		70-135	%	12.23.2019 18:05

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3111593 — Matrix: Solid — Date Prep: 12.23.2019
MB Sample Id: 7693201-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.23.2019 18:05	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 647383

LT Environmental, Inc.

PLU Big Sink 25 Federal Batterry

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3111593 Matrix: Soil Date Prep: 12.23.2019
Parent Sample Id: 647383-001 MS Sample Id: 647383-001 S MSD Sample Id: 647383-001 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)	14.6	1000	1000	99	891	88	70-135	12	35	mg/kg	12.23.2019 18:45	
Diesel Range Organics (DRO)	<11.5	1000	1030	103	945	95	70-135	9	35	mg/kg	12.23.2019 18:45	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		123		70-135	%	12.23.2019 18:45
o-Terphenyl	111		106		70-135	%	12.23.2019 18:45

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3111553 Matrix: Solid Date Prep: 12.23.2019
MB Sample Id: 7693184-1-BLK LCS Sample Id: 7693184-1-BKS LCSD Sample Id: 7693184-1-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	0.0909	91	0.0951	95	70-130	5	35	mg/kg	12.23.2019 16:05	
Toluene	<0.00200	0.100	0.0929	93	0.0972	97	70-130	5	35	mg/kg	12.23.2019 16:05	
Ethylbenzene	<0.00200	0.100	0.0920	92	0.0963	96	71-129	5	35	mg/kg	12.23.2019 16:05	
m,p-Xylenes	<0.00400	0.200	0.194	97	0.203	102	70-135	5	35	mg/kg	12.23.2019 16:05	
o-Xylene	<0.00200	0.100	0.0979	98	0.103	103	71-133	5	35	mg/kg	12.23.2019 16:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		102		103		70-130	%	12.23.2019 16:05
4-Bromofluorobenzene	116		116		116		70-130	%	12.23.2019 16:05

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3111553 Matrix: Soil Date Prep: 12.23.2019
Parent Sample Id: 647383-001 MS Sample Id: 647383-001 S MSD Sample Id: 647383-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.101	0.0922	91	0.0726	73	70-130	24	35	mg/kg	12.23.2019 16:43	
Toluene	<0.00201	0.101	0.0929	92	0.0734	74	70-130	23	35	mg/kg	12.23.2019 16:43	
Ethylbenzene	0.000495	0.101	0.0900	89	0.0708	71	71-129	24	35	mg/kg	12.23.2019 16:43	
m,p-Xylenes	<0.00402	0.201	0.189	94	0.148	74	70-135	24	35	mg/kg	12.23.2019 16:43	
o-Xylene	<0.00201	0.101	0.0957	95	0.0753	76	71-133	24	35	mg/kg	12.23.2019 16:43	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		101		70-130	%	12.23.2019 16:43
4-Bromofluorobenzene	121		120		70-130	%	12.23.2019 16:43

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference 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

XENCO LABORATORIES
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)
www.xenco.com

Work Order No: 647383

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:	
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	
Phone:	(432) 236-3849	Email:	wmather@ltenv.com, dmoir@ltenv.com

Work Order Comments

Program: UST/PST ☐ RP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ ST/UST ☐ RP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	PLU-Big Sinks 25 Federal Battery	Turn Around	
Project Number:	012919149	Routine	☐
P.O. Number:	Eddy County	Rush:	24hr
Sampler's Name:	William Mather	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No	
Temperature (°C):	0.6	Thermometer ID	TNM007	
Received Intact:	(Yes) No			
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes (No) N/A	Total Containers:	8	

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
PH04	s	12/20/2019	12:35	2'	1	x	x	x
PH04A	s	12/20/2019	12:43	2.5'	1	x	x	x
PH06	s	12/20/2019	11:48	2'	1	x	x	x
PH06A	s	12/20/2019	11:52	3'	1	x	x	x
PH07	s	12/20/2019	11:34	2'	1	x	x	x
PH07A	s	12/20/2019	11:36	3.5'	1	x	x	x
PH08	s	12/20/2019	11:17	2'	1	x	x	x
PH08A	s	12/20/2019	11:23	3.5'	1	x	x	x

ANALYSIS REQUEST

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

Sample Comments

discrete
discrete
discrete
discrete
discrete
discrete
discrete
discrete

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 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 **1631 / 245.1 / 7470 / 7471** : Hg

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			12/23/19 11:00 am	2		12/23/19 11:40
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 12/23/2019 11:00:00 AM

Work Order #: 647383

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)?	.6
#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: Martha Castro Date: 12/23/2019

Checklist reviewed by: Jessica Kramer Date: 12/24/2019

Analytical Report 648591

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU Big Sinks 25 Fed Battery

10-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)

10-JAN-20

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

Reference: XENCO Report No(s): **648591**
PLU Big Sinks 25 Fed Battery
Project Address: Eddy County

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) 648591. 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. 648591 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

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 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	01-09-20 10:00	2 ft	648591-001
PH01A	S	01-09-20 10:05	4 ft	648591-002
PH02	S	01-09-20 10:25	2 ft	648591-003
PH02A	S	01-09-20 10:30	3.75 ft	648591-004
PH03	S	01-09-20 10:50	2 ft	648591-005
PH03A	S	01-09-20 10:55	3 ft	648591-006
PH05A	S	01-09-20 11:35	3 ft	648591-007
PH05	S	01-09-20 11:20	2 ft	648591-008

Version: 1.%

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU Big Sinks 25 Fed Battery

Project ID:
Work Order Number(s): *648591*

Report Date: *10-JAN-20*
Date Received: *01/09/2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3112831 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3112858 TPH by SW8015 Mod
Surrogate 1-Chlorooctane recovered above QC limits Data confirmed by re-analysis. Samples affected are: 7694053-1-BLK,648591-008,648591-006.

Certificate of Analysis Summary 648591

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 25 Fed Battery

Project Id:

Contact: Dan Moir

Project Location: Eddy County

Date Received in Lab: Thu Jan-09-20 04:15 pm

Report Date: 10-JAN-20

Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	648591-001		648591-002		648591-003		648591-004		648591-005		648591-006	
	Field Id:	PH01		PH01A		PH02		PH02A		PH03		PH03A	
	Depth:	2- ft		4- ft		2- ft		3.75- ft		2- ft		3- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jan-09-20 10:00		Jan-09-20 10:05		Jan-09-20 10:25		Jan-09-20 10:30		Jan-09-20 10:50		Jan-09-20 10:55	
BTEX by EPA 8021B	***Extracted:***	Jan-09-20 17:00		Jan-09-20 17:00		Jan-09-20 17:00		Jan-09-20 17:00		Jan-09-20 17:00		Jan-09-20 17:00	
	Analyzed:	Jan-09-20 23:38		Jan-09-20 23:55		Jan-10-20 00:12		Jan-10-20 00:30		Jan-10-20 00:47		Jan-10-20 01:05	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200
m,p-Xylenes		<0.00399	0.00399	<0.00399	0.00399	<0.00398	0.00398	<0.00396	0.00396	<0.00396	0.00396	<0.00399	0.00399
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00198	0.00198	<0.00200	0.00200
Chloride by EPA 300	***Extracted:***	Jan-09-20 17:40		Jan-09-20 17:40		Jan-09-20 17:40		Jan-09-20 17:40		Jan-09-20 17:40		Jan-09-20 17:40	
	Analyzed:	Jan-09-20 23:09		Jan-09-20 23:16		Jan-09-20 23:22		Jan-09-20 23:28		Jan-09-20 23:35		Jan-09-20 23:41	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		283	9.96	195	9.98	1960	50.4	544	10.1	1300	50.4	2250	50.3
TPH by SW8015 Mod	***Extracted:***	Jan-09-20 18:30		Jan-09-20 18:30		Jan-09-20 18:30		Jan-09-20 18:30		Jan-09-20 18:30		Jan-09-20 18:30	
	Analyzed:	Jan-10-20 03:54		Jan-10-20 14:25		Jan-10-20 04:33		Jan-10-20 14:45		Jan-10-20 04:53		Jan-10-20 05:13	
	Units/RL:	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	<50.0	50.0	<50.2	50.2	<50.1	50.1	<50.1	50.1
Diesel Range Organics (DRO)		<50.3	50.3	<50.1	50.1	<50.0	50.0	<50.2	50.2	<50.1	50.1	<50.1	50.1
Motor Oil Range Hydrocarbons (MRO)		<50.3	50.3	<50.1	50.1	<50.0	50.0	<50.2	50.2	<50.1	50.1	<50.1	50.1
Total GRO-DRO		<50.3	50.3	<50.1	50.1	<50.0	50.0	<50.2	50.2	<50.1	50.1	<50.1	50.1
Total TPH		<50.3	50.3	<50.1	50.1	<50.0	50.0	<50.2	50.2	<50.1	50.1	<50.1	50.1

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

Version: 1.%

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analysis Summary 648591

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 25 Fed Battery

Project Id:
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Thu Jan-09-20 04:15 pm
Report Date: 10-JAN-20
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	648591-007		648591-008					
	Field Id:	PH05A		PH05					
	Depth:	3- ft		2- ft					
	Matrix:	SOIL		SOIL					
	Sampled:	Jan-09-20 11:35		Jan-09-20 11:20					
BTEX by EPA 8021B	***Extracted:***	Jan-09-20 17:00		Jan-09-20 17:00					
	Analyzed:	Jan-10-20 01:22		Jan-10-20 01:39					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00198	0.00198				
Toluene		<0.00200	0.00200	<0.00198	0.00198				
Ethylbenzene		<0.00200	0.00200	<0.00198	0.00198				
m,p-Xylenes		<0.00399	0.00399	<0.00396	0.00396				
o-Xylene		<0.00200	0.00200	<0.00198	0.00198				
Total Xylenes		<0.00200	0.00200	<0.00198	0.00198				
Total BTEX		<0.00200	0.00200	<0.00198	0.00198				
Chloride by EPA 300	***Extracted:***	Jan-09-20 17:40		Jan-09-20 17:40					
	Analyzed:	Jan-09-20 23:47		Jan-09-20 23:54					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Chloride		1790	50.4	3000	50.1				
TPH by SW8015 Mod	***Extracted:***	Jan-09-20 18:30		Jan-09-20 18:30					
	Analyzed:	Jan-10-20 05:13		Jan-10-20 05:33					
	Units/RL:	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1	<50.2	50.2				
Diesel Range Organics (DRO)		<50.1	50.1	<50.2	50.2				
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1	<50.2	50.2				
Total GRO-DRO		<50.1	50.1	<50.2	50.2				
Total TPH		<50.1	50.1	<50.2	50.2				

Version: 1.%

Jessica Kramer
Project Assistant

Final 1.000

Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	01.09.20 16.15
Lab Sample Id:	648591-001	Date Collected:	01.09.20 10.00	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.09.20 17.40	Basis:	Wet Weight
Seq Number:	3112846				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**283**	9.96	mg/kg	01.09.20 23.09		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.09.20 18.30	Basis:	Wet Weight
Seq Number:	3112858				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	01.10.20 03.54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	01.10.20 03.54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	01.10.20 03.54	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	01.10.20 03.54	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	01.10.20 03.54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	01.10.20 03.54	
o-Terphenyl	84-15-1	107	%	70-135	01.10.20 03.54	

Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id:	**PH01**	Matrix:	Soil	Date Received:	01.09.20 16.15
Lab Sample Id:	648591-001	Date Collected:	01.09.20 10.00	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.09.20 17.00	Basis:	Wet Weight
Seq Number:	3112831				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.09.20 23.38	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.09.20 23.38	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.09.20 23.38	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.09.20 23.38	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.09.20 23.38	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.09.20 23.38	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.09.20 23.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	100	%	70-130	01.09.20 23.38	
1,4-Difluorobenzene	540-36-3	98	%	70-130	01.09.20 23.38	

Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	01.09.20 16.15
Lab Sample Id:	648591-002	Date Collected:	01.09.20 10.05	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.09.20 17.40	Basis:	Wet Weight
Seq Number:	3112846				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**195**	9.98	mg/kg	01.09.20 23.16		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.09.20 18.30	Basis:	Wet Weight
Seq Number:	3112858				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.10.20 14.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	01.10.20 14.25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.10.20 14.25	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	01.10.20 14.25	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	01.10.20 14.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-135	01.10.20 14.25	
o-Terphenyl	84-15-1	121	%	70-135	01.10.20 14.25	

Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id:	**PH01A**	Matrix:	Soil	Date Received:	01.09.20 16.15
Lab Sample Id:	648591-002	Date Collected:	01.09.20 10.05	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.09.20 17.00	Basis:	Wet Weight
Seq Number:	3112831				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.09.20 23.55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.09.20 23.55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.09.20 23.55	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.09.20 23.55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.09.20 23.55	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.09.20 23.55	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.09.20 23.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	01.09.20 23.55	
4-Bromofluorobenzene	460-00-4	104	%	70-130	01.09.20 23.55	

Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	01.09.20 16.15
Lab Sample Id:	648591-003	Date Collected:	01.09.20 10.25	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.09.20 17.40	Basis:	Wet Weight
Seq Number:	3112846				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1960**	50.4	mg/kg	01.09.20 23.22		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.09.20 18.30	Basis:	Wet Weight
Seq Number:	3112858				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.10.20 04.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.10.20 04.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.10.20 04.33	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	01.10.20 04.33	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.10.20 04.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	01.10.20 04.33	
o-Terphenyl	84-15-1	96	%	70-135	01.10.20 04.33	

Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id:	**PH02**	Matrix:	Soil	Date Received:	01.09.20 16.15
Lab Sample Id:	648591-003	Date Collected:	01.09.20 10.25	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.09.20 17.00	Basis:	Wet Weight
Seq Number:	3112831				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	01.10.20 00.12	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.10.20 00.12	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.10.20 00.12	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	01.10.20 00.12	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	01.10.20 00.12	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	01.10.20 00.12	U	1
Total BTEX		<0.00199	0.00199	mg/kg	01.10.20 00.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.10.20 00.12	
4-Bromofluorobenzene	460-00-4	104	%	70-130	01.10.20 00.12	

Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	01.09.20 16.15
Lab Sample Id:	648591-004	Date Collected:	01.09.20 10.30	Sample Depth:	3.75 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.09.20 17.40	Basis:	Wet Weight
Seq Number:	3112846				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**544**	10.1	mg/kg	01.09.20 23.28		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.09.20 18.30	Basis:	Wet Weight
Seq Number:	3112858				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	01.10.20 14.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	01.10.20 14.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	01.10.20 14.45	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	01.10.20 14.45	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	01.10.20 14.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	01.10.20 14.45	
o-Terphenyl	84-15-1	92	%	70-135	01.10.20 14.45	

Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id:	**PH02A**	Matrix:	Soil	Date Received:	01.09.20 16.15
Lab Sample Id:	648591-004	Date Collected:	01.09.20 10.30	Sample Depth:	3.75 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.09.20 17.00	Basis:	Wet Weight
Seq Number:	3112831				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.10.20 00.30	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.10.20 00.30	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.10.20 00.30	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	01.10.20 00.30	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.10.20 00.30	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	01.10.20 00.30	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.10.20 00.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	01.10.20 00.30	
1,4-Difluorobenzene	540-36-3	100	%	70-130	01.10.20 00.30	

Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	01.09.20 16.15
Lab Sample Id:	648591-005	Date Collected:	01.09.20 10.50	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.09.20 17.40	Basis:	Wet Weight
Seq Number:	3112846				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1300**	50.4	mg/kg	01.09.20 23.35		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.09.20 18.30	Basis:	Wet Weight
Seq Number:	3112858				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.10.20 04.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	01.10.20 04.53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.10.20 04.53	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	01.10.20 04.53	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	01.10.20 04.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	01.10.20 04.53	
o-Terphenyl	84-15-1	95	%	70-135	01.10.20 04.53	

Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id:	**PH03**	Matrix:	Soil	Date Received:	01.09.20 16.15
Lab Sample Id:	648591-005	Date Collected:	01.09.20 10.50	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.09.20 17.00	Basis:	Wet Weight
Seq Number:	3112831				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.10.20 00.47	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.10.20 00.47	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.10.20 00.47	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	01.10.20 00.47	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.10.20 00.47	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	01.10.20 00.47	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.10.20 00.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	01.10.20 00.47	
1,4-Difluorobenzene	540-36-3	99	%	70-130	01.10.20 00.47	

Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	01.09.20 16.15
Lab Sample Id:	648591-006	Date Collected:	01.09.20 10.55	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.09.20 17.40	Basis:	Wet Weight
Seq Number:	3112846				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2250**	50.3	mg/kg	01.09.20 23.41		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.09.20 18.30	Basis:	Wet Weight
Seq Number:	3112858				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.10.20 05.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	01.10.20 05.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.10.20 05.13	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	01.10.20 05.13	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	01.10.20 05.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	138	%	70-135	01.10.20 05.13	**
o-Terphenyl	84-15-1	130	%	70-135	01.10.20 05.13	

Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id:	**PH03A**	Matrix:	Soil	Date Received:	01.09.20 16.15
Lab Sample Id:	648591-006	Date Collected:	01.09.20 10.55	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.09.20 17.00	Basis:	Wet Weight
Seq Number:	3112831				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.10.20 01.05	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.10.20 01.05	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.10.20 01.05	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.10.20 01.05	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.10.20 01.05	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.10.20 01.05	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.10.20 01.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.10.20 01.05	
4-Bromofluorobenzene	460-00-4	110	%	70-130	01.10.20 01.05	

Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id:	**PH05A**	Matrix:	Soil	Date Received:	01.09.20 16.15
Lab Sample Id:	648591-007	Date Collected:	01.09.20 11.35	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.09.20 17.40	Basis:	Wet Weight
Seq Number:	3112846				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1790**	50.4	mg/kg	01.09.20 23.47		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.09.20 18.30	Basis:	Wet Weight
Seq Number:	3112858				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.10.20 05.13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	01.10.20 05.13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.10.20 05.13	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	01.10.20 05.13	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	01.10.20 05.13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	01.10.20 05.13	
o-Terphenyl	84-15-1	93	%	70-135	01.10.20 05.13	

Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id:	**PH05A**	Matrix:	Soil	Date Received:	01.09.20 16.15
Lab Sample Id:	648591-007	Date Collected:	01.09.20 11.35	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.09.20 17.00	Basis:	Wet Weight
Seq Number:	3112831				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.10.20 01.22	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.10.20 01.22	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.10.20 01.22	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.10.20 01.22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.10.20 01.22	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.10.20 01.22	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.10.20 01.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	01.10.20 01.22	
1,4-Difluorobenzene	540-36-3	99	%	70-130	01.10.20 01.22	

Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id:	**PH05**	Matrix:	Soil	Date Received:	01.09.20 16.15
Lab Sample Id:	648591-008	Date Collected:	01.09.20 11.20	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.09.20 17.40	Basis:	Wet Weight
Seq Number:	3112846				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3000**	50.1	mg/kg	01.09.20 23.54		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.09.20 18.30	Basis:	Wet Weight
Seq Number:	3112858				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	01.10.20 05.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	01.10.20 05.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	01.10.20 05.33	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	01.10.20 05.33	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	01.10.20 05.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	139	%	70-135	01.10.20 05.33	**
o-Terphenyl	84-15-1	130	%	70-135	01.10.20 05.33	

Certificate of Analytical Results 648591

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id:	**PH05**	Matrix:	Soil	Date Received:	01.09.20 16.15
Lab Sample Id:	648591-008	Date Collected:	01.09.20 11.20	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.09.20 17.00	Basis:	Wet Weight
Seq Number:	3112831				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.10.20 01.39	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.10.20 01.39	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.10.20 01.39	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	01.10.20 01.39	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.10.20 01.39	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	01.10.20 01.39	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.10.20 01.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	01.10.20 01.39	
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.10.20 01.39	

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

QC Summary 648591

LT Environmental, Inc.

PLU Big Sinks 25 Fed Battery

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3112846 — Matrix: Solid — Date Prep: 01.09.20
MB Sample Id: 7694038-1-BLK — LCS Sample Id: 7694038-1-BKS — LCSD Sample Id: 7694038-1-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	255	102	261	104	90-110	2	20	mg/kg	01.09.20 20:51	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3112846 — Matrix: Soil — Date Prep: 01.09.20
Parent Sample Id: 648427-047 — MS Sample Id: 648427-047 S — MSD Sample Id: 648427-047 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	200	199	415	108	417	109	90-110	0	20	mg/kg	01.09.20 21:10	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3112846 — Matrix: Soil — Date Prep: 01.09.20
Parent Sample Id: 648427-057 — MS Sample Id: 648427-057 S — MSD Sample Id: 648427-057 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6890	202	7070	89	7040	75	90-110	0	20	mg/kg	01.09.20 22:38	X

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3112858 — Matrix: Solid — Date Prep: 01.09.20
MB Sample Id: 7694053-1-BLK — LCS Sample Id: 7694053-1-BKS — LCSD Sample Id: 7694053-1-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	1210	121	1210	121	70-135	0	35	mg/kg	01.10.20 03:34	
Diesel Range Organics (DRO)	<50.0	1000	1120	112	1110	111	70-135	1	35	mg/kg	01.10.20 03:34	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	137	**	130		114		70-135	%	01.10.20 03:34
o-Terphenyl	134		102		100		70-135	%	01.10.20 03:34

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3112858 — Matrix: Solid — Date Prep: 01.09.20
MB Sample Id: 7694053-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.10.20 03:34	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 648591

LT Environmental, Inc.

PLU Big Sinks 25 Fed Battery

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3112858 | Matrix: Soil | Date Prep: 01.09.20
Parent Sample Id: 648591-001 | MS Sample Id: 648591-001 S | MSD Sample Id: 648591-001 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)	<50.2	1000	1280	128	1260	126	70-135	2	35	mg/kg	01.10.20 13:44	
Diesel Range Organics (DRO)	<50.2	1000	1200	120	1190	119	70-135	1	35	mg/kg	01.10.20 13:44	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	120		123		70-135	%	01.10.20 13:44
o-Terphenyl	107		109		70-135	%	01.10.20 13:44

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3112831 | Matrix: Solid | Date Prep: 01.09.20
MB Sample Id: 7694076-1-BLK | LCS Sample Id: 7694076-1-BKS | LCSD Sample Id: 7694076-1-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	0.0941	94	0.101	101	70-130	7	35	mg/kg	01.09.20 17:50	
Toluene	<0.00200	0.100	0.0961	96	0.103	103	70-130	7	35	mg/kg	01.09.20 17:50	
Ethylbenzene	<0.00200	0.100	0.0948	95	0.101	101	71-129	6	35	mg/kg	01.09.20 17:50	
m,p-Xylenes	<0.00400	0.200	0.197	99	0.211	106	70-135	7	35	mg/kg	01.09.20 17:50	
o-Xylene	<0.00200	0.100	0.0961	96	0.103	103	71-133	7	35	mg/kg	01.09.20 17:50	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		99		101		70-130	%	01.09.20 17:50
4-Bromofluorobenzene	102		101		104		70-130	%	01.09.20 17:50

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3112831 | Matrix: Soil | Date Prep: 01.09.20
Parent Sample Id: 648427-057 | MS Sample Id: 648427-057 S | MSD Sample Id: 648427-057 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	0.113	113	0.103	103	70-130	9	35	mg/kg	01.09.20 18:25	
Toluene	<0.00200	0.100	0.110	110	0.0941	94	70-130	16	35	mg/kg	01.09.20 18:25	
Ethylbenzene	<0.00200	0.100	0.0990	99	0.0744	75	71-129	28	35	mg/kg	01.09.20 18:25	
m,p-Xylenes	<0.00401	0.200	0.203	102	0.150	75	70-135	30	35	mg/kg	01.09.20 18:25	
o-Xylene	<0.00200	0.100	0.101	101	0.0756	76	71-133	29	35	mg/kg	01.09.20 18:25	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		102		70-130	%	01.09.20 18:25
4-Bromofluorobenzene	108		106		70-130	%	01.09.20 18:25

MS/MSD Percent Recovery | [D] = 100*(C-A) / B | LCS = Laboratory Control Sample | MS = Matrix Spike
Relative Percent Difference | RPD = 200* | (C-E) / (C+E) | | A = Parent Result | B = Spike Added
LCS/LCSD Recovery | [D] = 100 * (C) / [B] | C = MS/LCS Result | D = MSD/LCSD % Rec
Log Difference | Log Diff. = Log(Sample Duplicate) - Log(Original Sample) | E = MSD/LCSD Result

Chain of Custody

Work Order No: 648591

XENCO LABORATORIES
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)
www.xenco.com

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:	
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	
Phone:	(432) 236-3849	Email:	enaka@ltenv.com, dmoir@ltenv.com

Work Order Comments

Program: UST/PST ☐ RP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ ST/UST ☐ RP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	PLU Big Sinks 25 Fed Battery	Turn Around	
Project Number:	2RP-5551	Routine ☐	
P.O. Number:	Eddy County	Rush: 2 day	
Sampler's Name:	Elizabeth Naka	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	1.0	Thermometer ID	TNH007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	8

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
PH01	S	1/9/20	1000	2'	1	X	X	X	discrete
PH01A			1005	4'					
PH02			1025	2'					
PH02A			1030	3.75'					
PH03			1050	2'					
PH03A			1055	3'					
PH05A			1135	3'					
PH05			1120	2'					

ANALYSIS REQUEST

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

Elizabeth Naka

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 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 **1631 / 245.1 / 7470 / 7471** : Hg

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Elizabeth Naka	W. Mfs	1/9/20 16:06	2	W. Mfs	1/9/20 16:15
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 01.09.2020 04.15.00 PM

Work Order #: 648591

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: 01.09.2020

Checklist reviewed by: Jessica Kramer Date: 01.10.2020

Jessica Kramer

Analytical Report 649505

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU Big Sinks 25 Fed Battery

21-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)

21-JAN-20

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

Reference: XENCO Report No(s): **649505**
PLU Big Sinks 25 Fed Battery
Project Address: Eddy County

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) 649505. 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. 649505 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

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 649505

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS03	S	01-17-20 12:50	0.5 ft	649505-001

Version: 1.%

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU Big Sinks 25 Fed Battery

Project ID:
Work Order Number(s): *649505*

Report Date: *21-JAN-20*
Date Received: *01/17/2020*

Sample receipt non conformances and comments:

Per cleints email, corrected sample name from FS01 to FS03. New version generated, JK 01/21/20

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3113725 BTEX by EPA 8021B

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

Certificate of Analysis Summary 649505

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 25 Fed Battery

Project Id:

Contact: Dan Moir

Project Location: Eddy County

Date Received in Lab: Fri Jan-17-20 02:30 pm

Report Date: 21-JAN-20

Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	649505-001					
	Field Id:	FS03					
	Depth:	0.5- ft					
	Matrix:	SOIL					
	Sampled:	Jan-17-20 12:50					
BTEX by EPA 8021B	***Extracted:***	Jan-17-20 16:00					
	Analyzed:	Jan-17-20 22:10					
	Units/RL:	mg/kg	RL				
Benzene		<0.00198	0.00198				
Toluene		<0.00198	0.00198				
Ethylbenzene		<0.00198	0.00198				
m,p-Xylenes		<0.00395	0.00395				
o-Xylene		<0.00198	0.00198				
Total Xylenes		<0.00198	0.00198				
Total BTEX		<0.00198	0.00198				
Chloride by EPA 300	***Extracted:***	Jan-17-20 16:00					
	Analyzed:	Jan-18-20 12:51					
	Units/RL:	mg/kg	RL				
Chloride		3430	10.1				
TPH by SW8015 Mod	***Extracted:***	Jan-17-20 18:15					
	Analyzed:	Jan-19-20 03:47					
	Units/RL:	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1				
Diesel Range Organics (DRO)		<50.1	50.1				
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1				
Total GRO-DRO		<50.1	50.1				
Total TPH		<50.1	50.1				

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

Version: 1.%

Jessica Kramer
Project Assistant

Certificate of Analytical Results 649505

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	01.17.20 14.30
Lab Sample Id:	649505-001	Date Collected:	01.17.20 12.50	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	ECA	Date Prep:	01.17.20 16.00	Basis:	Wet Weight
Seq Number:	3113713				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**3430**	10.1	mg/kg	01.18.20 12.51		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	01.17.20 18.15	Basis:	Wet Weight
Seq Number:	3113733				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.19.20 03.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	01.19.20 03.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.19.20 03.47	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	01.19.20 03.47	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	01.19.20 03.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	01.19.20 03.47	
o-Terphenyl	84-15-1	101	%	70-135	01.19.20 03.47	

Certificate of Analytical Results 649505

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Fed Battery

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	01.17.20 14.30
Lab Sample Id:	649505-001	Date Collected:	01.17.20 12.50	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	01.17.20 16.00	Basis:	Wet Weight
Seq Number:	3113725				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.17.20 22.10	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.17.20 22.10	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.17.20 22.10	U	1
m,p-Xylenes	179601-23-1	<0.00395	0.00395	mg/kg	01.17.20 22.10	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.17.20 22.10	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	01.17.20 22.10	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.17.20 22.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	01.17.20 22.10	
4-Bromofluorobenzene	460-00-4	99	%	70-130	01.17.20 22.10	

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

QC Summary 649505

LT Environmental, Inc.

PLU Big Sinks 25 Fed Battery

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3113713 — Matrix: Solid — Date Prep: 01.17.20
MB Sample Id: 7694644-1-BLK — LCS Sample Id: 7694644-1-BKS — LCSD Sample Id: 7694644-1-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	260	104	90-110	1	20	mg/kg	01.17.20 21:01	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3113713 — Matrix: Soil — Date Prep: 01.17.20
Parent Sample Id: 649439-029 — MS Sample Id: 649439-029 S — MSD Sample Id: 649439-029 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	162	200	381	110	380	109	90-110	0	20	mg/kg	01.17.20 21:19	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3113713 — Matrix: Soil — Date Prep: 01.17.20
Parent Sample Id: 649501-004 — MS Sample Id: 649501-004 S — MSD Sample Id: 649501-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	61.5	200	277	108	276	107	90-110	0	20	mg/kg	01.17.20 22:41	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3113733 — Matrix: Solid — Date Prep: 01.17.20
MB Sample Id: 7694707-1-BLK — LCS Sample Id: 7694707-1-BKS — LCSD Sample Id: 7694707-1-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	1020	102	1030	103	70-135	1	35	mg/kg	01.19.20 01:11	
Diesel Range Organics (DRO)	<50.0	1000	1200	120	1080	108	70-135	11	35	mg/kg	01.19.20 01:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		122		129		70-135	%	01.19.20 01:11
o-Terphenyl	115		123		129		70-135	%	01.19.20 01:11

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3113733 — Matrix: Solid — Date Prep: 01.17.20
MB Sample Id: 7694707-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.19.20 00:51	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 649505

LT Environmental, Inc.

PLU Big Sinks 25 Fed Battery

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3113733 | Matrix: Soil | Date Prep: 01.17.20
Parent Sample Id: 649501-004 | MS Sample Id: 649501-004 S | MSD Sample Id: 649501-004 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)	<50.2	1000	1080	108	1050	104	70-135	3	35	mg/kg	01.19.20 02:09	
Diesel Range Organics (DRO)	<50.2	1000	1160	116	1230	122	70-135	6	35	mg/kg	01.19.20 02:09	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		115		70-135	%	01.19.20 02:09
o-Terphenyl	120		114		70-135	%	01.19.20 02:09

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3113725 | Matrix: Solid | Date Prep: 01.17.20
MB Sample Id: 7694647-1-BLK | LCS Sample Id: 7694647-1-BKS | LCSD Sample Id: 7694647-1-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	0.100	100	0.106	106	70-130	6	35	mg/kg	01.17.20 12:11	
Toluene	<0.00200	0.100	0.0990	99	0.103	103	70-130	4	35	mg/kg	01.17.20 12:11	
Ethylbenzene	<0.00200	0.100	0.0975	98	0.0999	100	71-129	2	35	mg/kg	01.17.20 12:11	
m,p-Xylenes	<0.00400	0.200	0.201	101	0.205	103	70-135	2	35	mg/kg	01.17.20 12:11	
o-Xylene	<0.00200	0.100	0.0984	98	0.102	102	71-133	4	35	mg/kg	01.17.20 12:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		101		104		70-130	%	01.17.20 12:11
4-Bromofluorobenzene	100		98		99		70-130	%	01.17.20 12:11

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3113725 | Matrix: Soil | Date Prep: 01.17.20
Parent Sample Id: 649437-001 | MS Sample Id: 649437-001 S | MSD Sample Id: 649437-001 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	0.100	0.0925	93	0.0893	90	70-130	4	35	mg/kg	01.17.20 13:12	
Toluene	<0.00200	0.100	0.0910	91	0.0856	86	70-130	6	35	mg/kg	01.17.20 13:12	
Ethylbenzene	0.000954	0.100	0.0895	89	0.0821	81	71-129	9	35	mg/kg	01.17.20 13:12	
m,p-Xylenes	0.000763	0.200	0.184	92	0.168	84	70-135	9	35	mg/kg	01.17.20 13:12	
o-Xylene	0.000582	0.100	0.0905	90	0.0831	83	71-133	9	35	mg/kg	01.17.20 13:12	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		104		70-130	%	01.17.20 13:12
4-Bromofluorobenzene	100		98		70-130	%	01.17.20 13:12

MS/MSD Percent Recovery | [D] = 100*(C-A) / B | LCS = Laboratory Control Sample | MS = Matrix Spike
Relative Percent Difference | RPD = 200* | (C-E) / (C+E) | | A = Parent Result | B = Spike Added
LCS/LCSD Recovery | [D] = 100 * (C) / [B] | C = MS/LCS Result | D = MSD/LCSD % Rec
Log Difference | Log Diff. = Log(Sample Duplicate) - Log(Original Sample) | E = MSD/LCSD Result

Chain of Custody

Work Order No: 649505

XENCO LABORATORIES

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) 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:	
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	
Phone:	(432) 236-3849	Email:	enaka@ltenv.com, dmoir@ltenv.com

Work Order Comments

Program: UST/PST ☐ RP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	PLU Big Sinks 25 Fed Battery	Turn Around	
Project Number:	~~012879~~ EM	Routine	☐
P.O. Number:	Eddy County	Rush:	24hour
Sampler's Name:	Elizabeth Naka	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	~~Yes~~ No	Wet Ice:	Yes No
Temperature (°C):	0.4	Thermometer ID	
Received Intact:	Yes No	T-NM-007	
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Total Containers:	1

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
~~FS01~~	S	~~1250~~ EM							
FS01	S	1/17/20	1250	0.5	1	X	X	X	composite

Elizabeth Naka

ANALYSIS REQUEST

Work Order Notes

TAT starts the day recevied 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 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 **1631 / 245.1 / 7470 / 7471** : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 Elizabeth Naka		1/17/20 14:30	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

ENSOLUM

APPENDIX B

June 26, 2020
Closure Request Addendum

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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NAB1921742793
District RP	2RP-5551
Facility ID	
Application ID	pAB1921742256

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # *(assigned by OCD)* NAB1921742793
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.181450° Longitude -103.833297°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name PLU Big Sinks 25 Federal Battery	Site Type Bulk Storage and Separation Facility
Date Release Discovered 7/7/2019	API# *(if applicable)* 30-015-39018 (PLU CVX JV BS 5H)

Unit Letter	Section	Township	Range	County
O	25	24S	30E	Eddy

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (*Name:* State (Release flows onto BLM Surface))

** Legal description lists as a Federal Surface Owner

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 67.65	Volume Recovered (bbls) 55
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

A hole developed in a line riser due to corrosion at the south side of the tank battery. Fluids were released to the well pad and to a small area of ROW near the source. A vacuum truck recovered free fluids from the ground surface. The line was isolated. The damaged section of riser was removed and scheduled for repair. Additional third party resources have been retained to assist with remediation.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NAB1921742793
District RP	2RP-5551
Facility ID	
Application ID	pAB1921742256

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? An unauthorized release of a volume of 25 barrels or more

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Notice provided by Amy Ruth to Mike Bratcher, Rob Hamlet, Victoria Venegas, and Jim Griswold (NMOCD), Jim Amos and Deborah McKinney (BLM), and Ryan Mann (SLO) on 7/7/2019 by email

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.
☒ The impacted area has been secured to protect human health and the environment.
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☒ All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:
N/A

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: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 7/17/2019

email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: Amalia Bustamante Date: 8/5/2019

State of New Mexico
Oil Conservation Division

Incident ID	NAB1921742793
District RP	2RP-5551
Facility ID	
Application ID	pAB1921742256

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?	>100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ 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)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ 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?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

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

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

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

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

State of New Mexico
Oil Conservation Division

Incident ID	NAB1921742793
District RP	2RP-5551
Facility ID	
Application ID	pAB1921742256

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: 06/26/2020

email: Kyle_Littrell@xtoenergy.com Telephone: (432)-221-7331

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	NAB1921742793
District RP	2RP-5551
Facility ID	
Application ID	pAB1921742256

Closure

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

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

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 06/26/2020

email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: Date:

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

Closure Approved by: Date:

Printed Name: Title:

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LT Environmental, Inc.
3300 North "A" Street
Building 1, Unit 222
Midland, Texas 79705
432.704.5178

June 26, 2020

Mr. Mike Bratcher
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210

RE: Closure Request Addendum
Poker Lake Unit Big Sinks 25 Federal Battery
Remediation Permit Number 2RP-5551
Incident Number NAB1921742793
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following addendum to an original Closure Request submitted January 22, 2020. This Addendum provides an update of sampling activities at the Poker Lake Unit (PLU) Big Sinks 25 Federal Battery (Site), located in Unit O, Section 25, Township 24 South, Range 30 East, in Eddy County, New Mexico (Figure 1), in response to the denial of the Closure Request by the New Mexico Oil Conservation Division (NMOCD). In the denial, NMOCD required XTO collect an additional confirmation sample from within the northern excavation extent to confirm soil meets the NMOCD Table 1 Closure Criteria (Closure Criteria). Based on additional work conducted, XTO is requesting no further action (NFA) for Remediation Permit (RP) Number 2RP-5551 and Incident Number NAB1921742793.

BACKGROUND

On January 22, 2020, LTE submitted a Closure Request to NMOCD for a release that occurred from a hole that developed in a line riser due to corrosion at the south side of the tank battery, resulting in the release of approximately 67.65 barrels (bbls) of produced water onto the caliche well pad and onto the adjacent developed right-of-way (ROW). XTO recovered free standing fluids with a hydrovacuum and excavated approximately 340 square feet of affected soil. A total of approximately 60 cubic yards of impacted soil were removed within the release extent. LTE personnel collected a total of thirty-one preliminary, delineation, and excavation soil samples within the release extent from July 2019 to January 2020. Closure was requested due to laboratory analytical results for preliminary, delineation, and excavation soil samples indicating residual soil was compliant with the Closure Criteria.

On March 16, 2020, NMOCD denied closure, via email, for the following reasons:

The OCD has denied the submitted Closure Report C-141 for incident #nAB1921742793 for the following reasons:

- *Depth to groundwater is not adequately identified. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided. If evidence of depth to ground water within a ½ mile radius of the site cannot be provided, impacted soils will need to meet Table 1 Closure Criteria for ground water at a depth of 50 feet or less.*
- *For the on-pad area, samples are representative of more than 200 square feet. Please collect more confirmation samples, representing no more than 200 square feet, unless XTO chooses to provide a sampling plan for approval prior to conduction additional sampling.*

After further review of the closest well with depth to groundwater, XTO requests that NMOCD reconsider the first reason for denial following submittal of additional information below:

- Figure 1 shows nearby XTO release locations for which NMOCD has approved the depth to groundwater determinations based on the depth to groundwater associated with the nearest New Mexico Office of the State Engineer (NMOSE) (dark blue) or United States Geological Survey (USGS) (light blue) wells identified. For all of these locations, depth to groundwater was estimated to be greater than 100 feet bgs. All determinations referenced the same groundwater wells and available data as provided in Figure 1. Existing referenced well records are included in Appendix 1.
- The regional trend does not support shallow groundwater less than 50 feet bgs at this Site. Depth to groundwater data identified on the map illustrates the documented trend of increasing depth to groundwater with increased distance from the Pecos River. The Pecos River is located approximately 7.85 miles west of the Site and is not shown on Figure 1. When viewed regionally using potentiometric contours, the Site falls in an area with depth to groundwater greater than 400 feet with five corresponding data points within 2 miles of the Site.
- There are no regional or Site-specific hydrological conditions, such as shallow surface water, karst features, wetlands, or vegetation, to suggest the Site is conducive to shallow groundwater.

Based on the additional data provided, XTO requests NMOCD approve the estimated depth to groundwater as greater than 100 feet and Closure Criteria, as identified in the original Closure Request, apply.

ADDITIONAL SITE ACTIVITIES

To address the second reason for denial, LTE conducted additional confirmation sampling on May 12, 2020, to confirm impacted soil had been removed from the release extent. The excavation extents and confirmation soil sample locations are depicted on Figure 2. An additional

confirmation composite floor sample, FS04, was collected at a depth of approximately 0.5 feet bgs.

The confirmation soil sample was placed directly into pre-cleaned glass jars, labeled with 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 Carlsbad, New Mexico, for analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) following United States Environmental Protection Agency (EPA) Method 8021B; total petroleum hydrocarbons (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.

SOIL ANALYTICAL RESULTS

Laboratory analytical results indicated confirmation soil sample FS04, collected at a depth of approximately 0.5 feet bgs, was compliant with the Closure Criteria for benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical report is included as Attachment 2.

CLOSURE REQUEST

LTE has provided additional information for NMOCD to reconsider denial of the depth to water determination in the original Closure Request. Regional trends and previous NMOCD approval of similar estimates made at release locations in the immediate vicinity support depth to water being greater than 100 feet bgs at the Site. In compliance with the NMOCD's suggestion to collect an additional conformation soil sample from within the excavation extent, LTE collected one additional sample (FS04) to confirm the absence of impacted soil and adequately represent 200 square feet of excavation area. Laboratory analytical results for confirmation soil sample FS04 indicated that benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Based on the additional information provided, XTO requests NFA for Remediation Permit (RP) Number 2RP-5551 and Incident Number NAB1921742793.

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

Sincerely,

LT ENVIRONMENTAL, INC.

Carol Ann Whaley
Staff Geoscientist

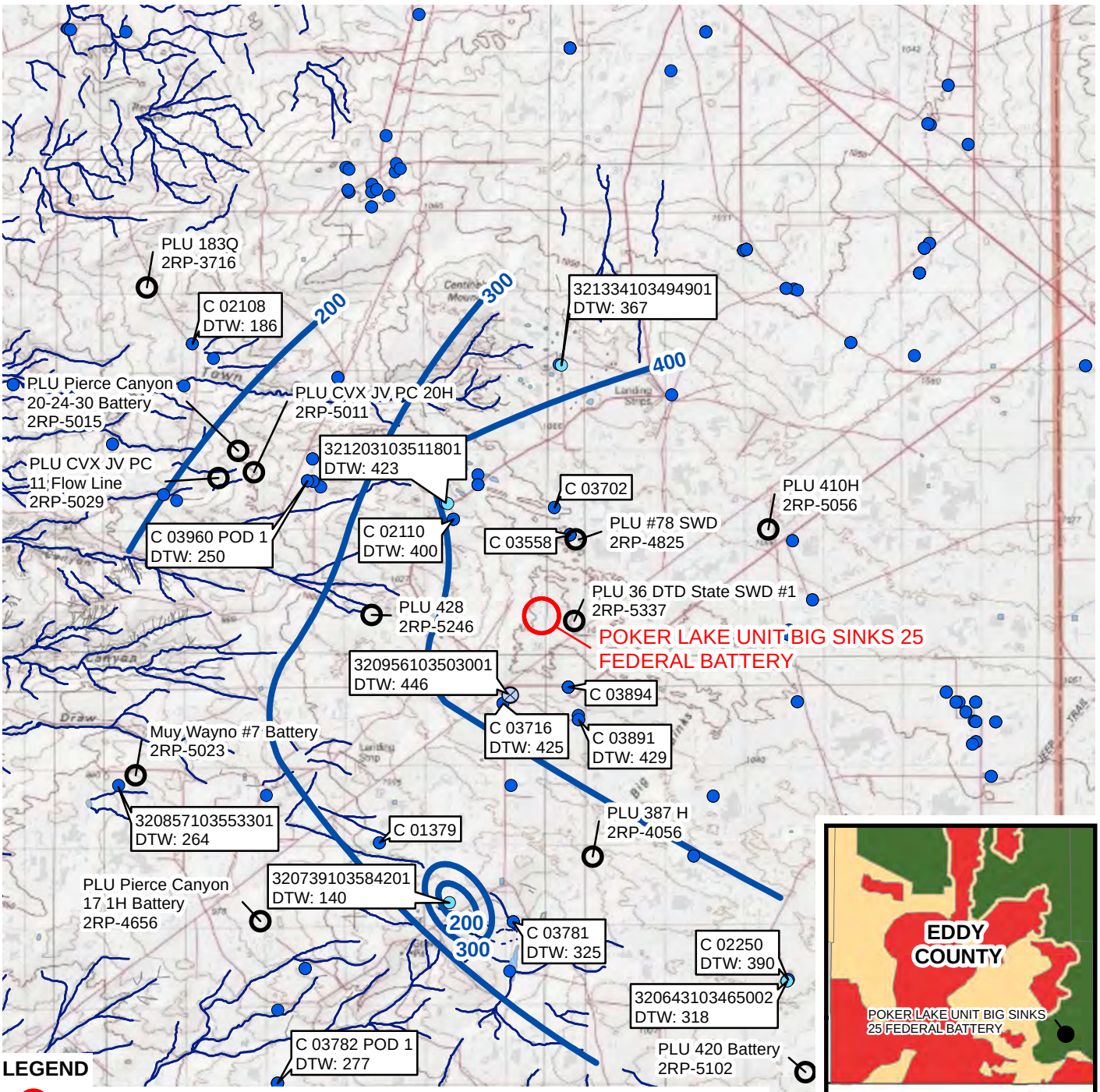
Ashley L. Ager, M.S., P.G.
Senior Geologist

cc: Kyle Littrell, XTO
United States Bureau of Land Management – New Mexico
Ryan Mann, State Land Office
Robert Hamlet, NMOCD
Victoria Venegas, NMOCD
Cristina Eads, NMOCD

Appendices:

Figure 1	Site Location Map
Figure 2	Excavation Soil Sample Locations
Table 1	Laboratory Analytical Results
Attachment 2	Laboratory Analytical Reports
Appendix 1	Referenced Well Records

FIGURES



LEGEND

- SITE LOCATION
- COMPARATIVE SITE LOCATIONS
- USGS WATER WELL ASSOCIATED WITH REPORT FOR POKER LAKE UNIT BIG SINKS 25 FEDERAL BATTERY
- NMOSE WATER WELLS
- USGS WATER WELLS
- NATIONAL HYDROGRAPHY DATASET SURFACE WATER FEATURE
- GROUNDWATER POTENTIOMETRIC CONTOUR (IN FEET)
- NATIONAL WETLANDS INVENTORY SURFACE WATER FEATURE
- LOW KARST
- MEDIUM KARST
- HIGH KARST

NOTE: REMEDIATION PERMIT NUMBER 2RP-5551
NMOSE: NEW MEXICO OFFICE OF STATE ENGINEERS
USGS: UNITED STATES GEOLOGICAL SURVEY
DTW: DEPTH TO WATER IN FEET
BLM: BUREAU OF LAND MANAGEMENT

FIGURE 2
SITE LOCATION MAP
POKER LAKE UNIT BIG SINKS 25 FEDERAL BATTERY
UNIT O SEC 25 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919149_PLU BIG SINKS 25 FEDERAL BATTERY (2RP-5551)\012919149_FIG01_SL_SITES_061220_5551.mxd

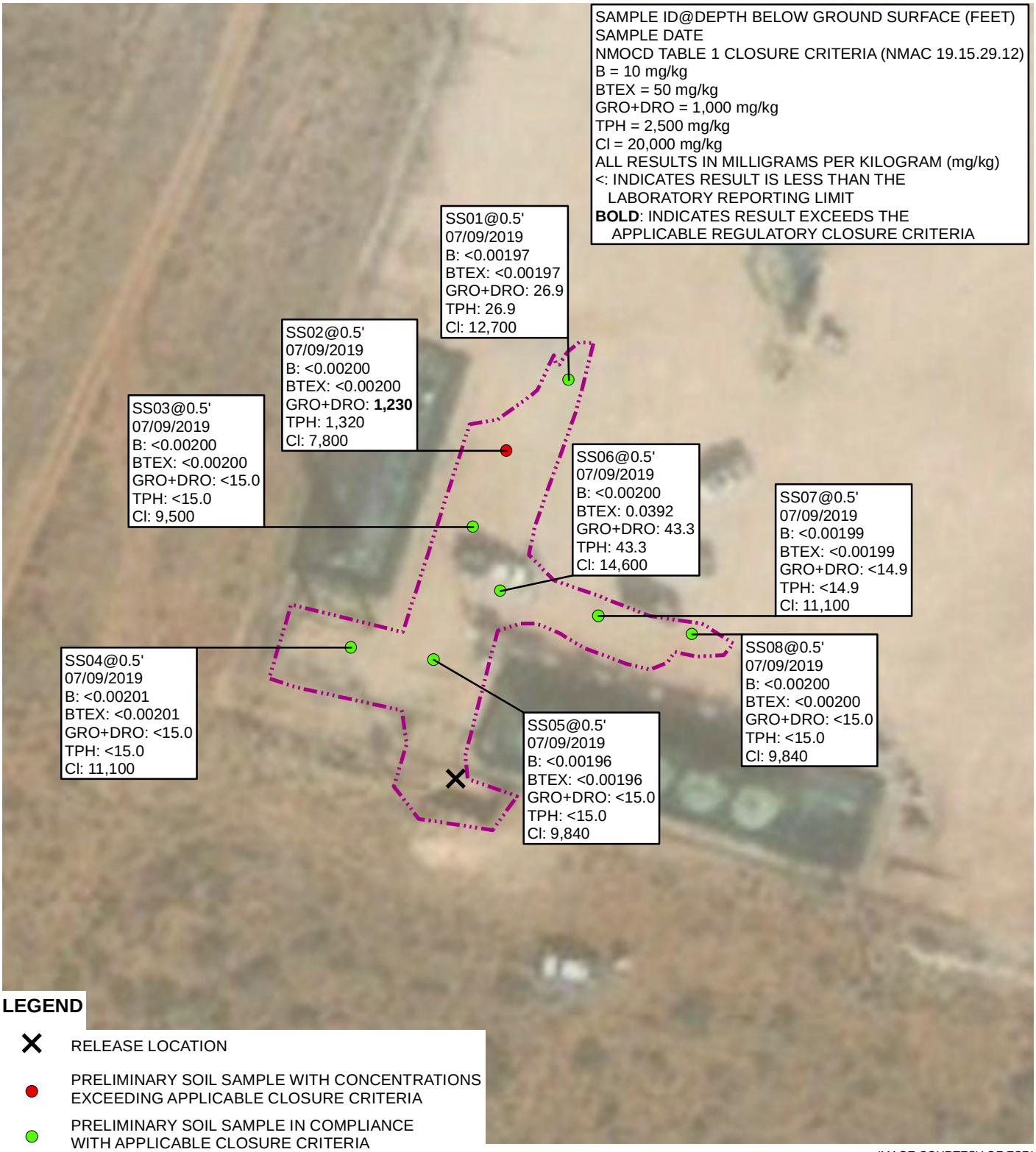
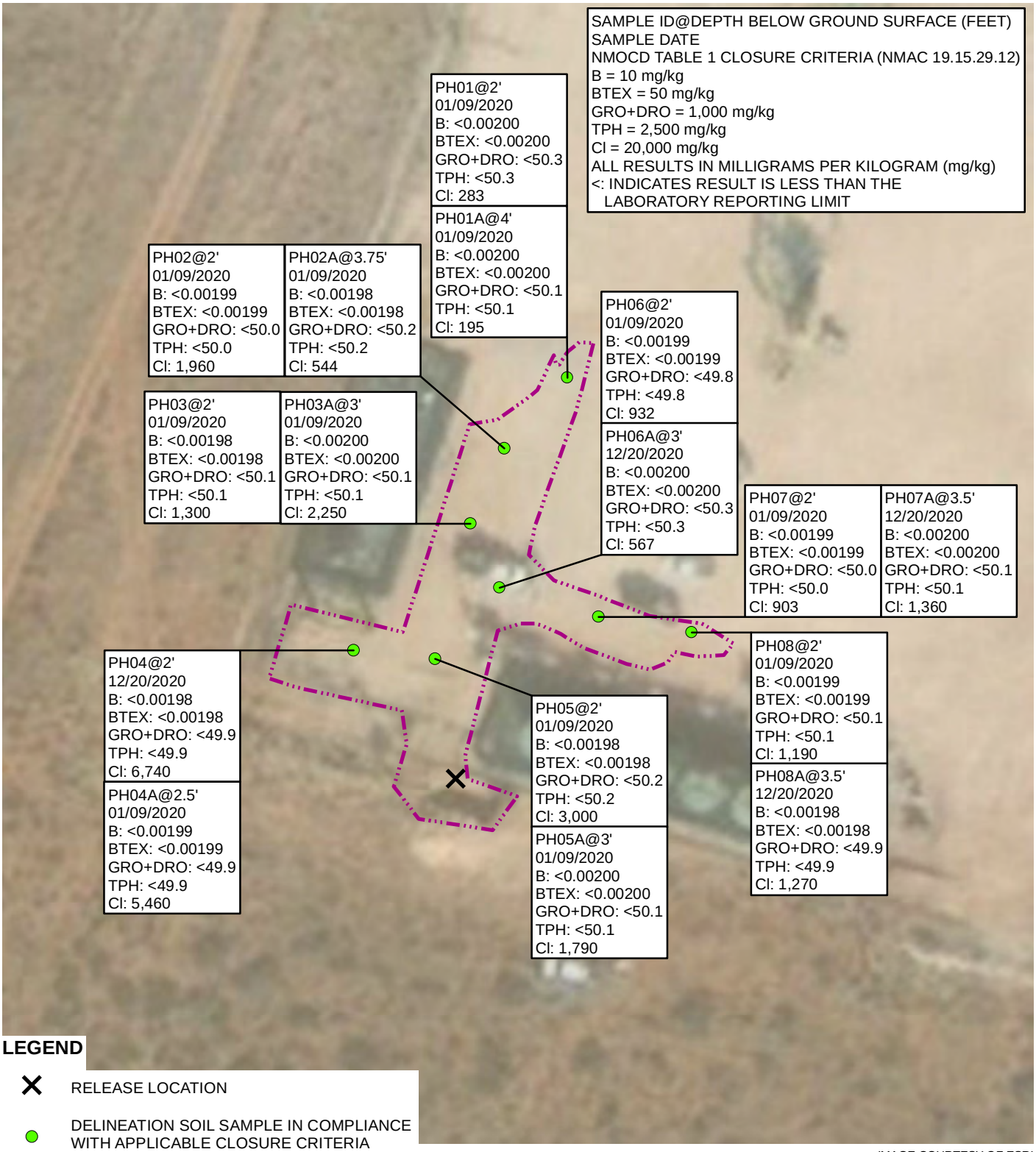


FIGURE 2
PRELIMINARY SOIL SAMPLE LOCATIONS
POKER LAKE UNIT BIG SINKS 25 FEDERAL BATTERY
UNIT O SEC 25 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919149_PLU BIG SINKS 25 FEDERAL BATTERY (2RP-5551)\012919149_FIG02_PRELIMINARY_5551.mxd



B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 2RP-5551

FIGURE 3
DELINEATION SOIL SAMPLE LOCATIONS
POKER LAKE UNIT BIG SINKS 25 FEDERAL BATTERY
UNIT O SEC 25 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919149_PLU BIG SINKS 25 FEDERAL BATTERY (2RP-5551)\012919149_FIG03_DELINEATION_5551.mxd

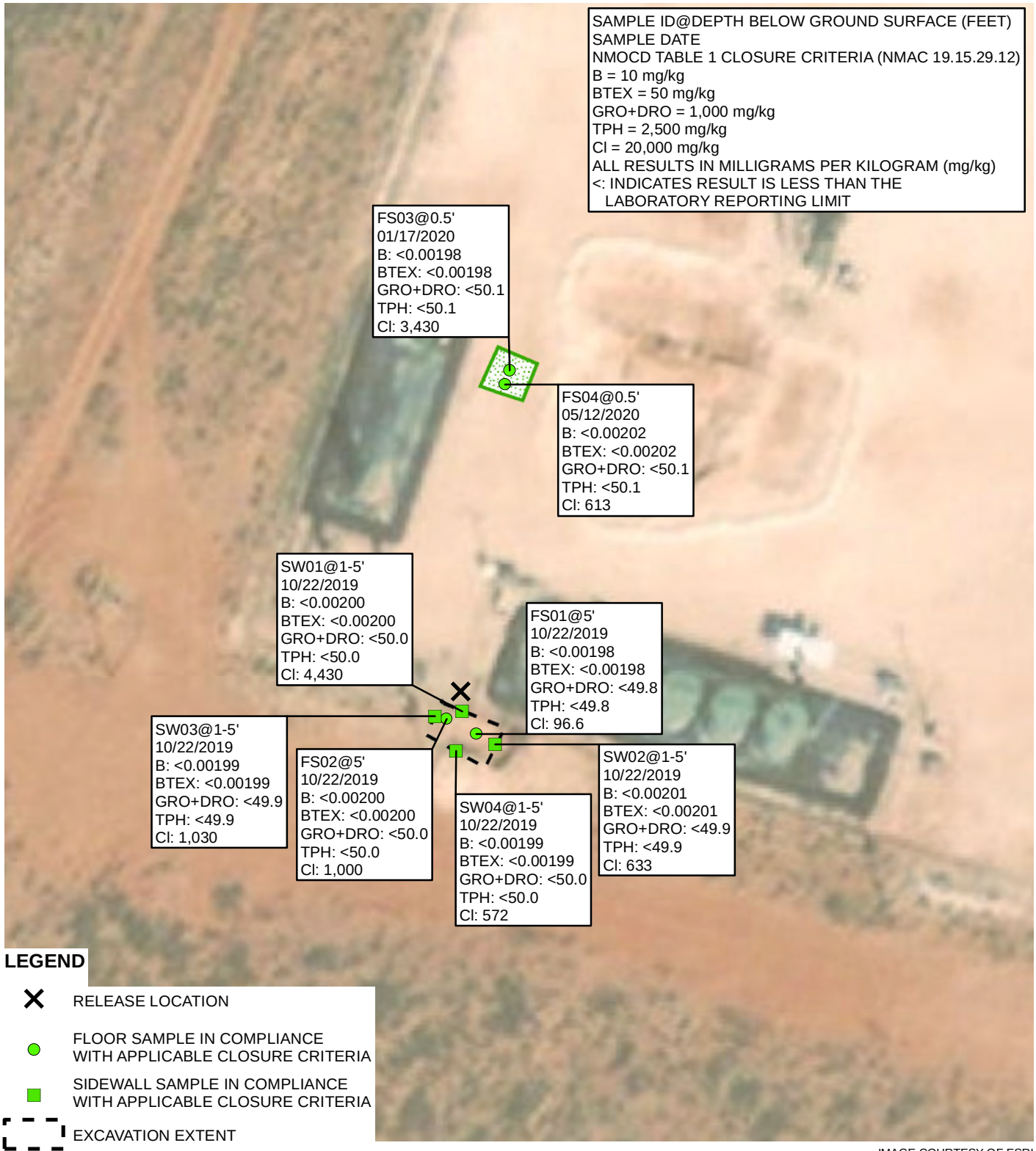


FIGURE 4
EXCAVATION SOIL SAMPLE LOCATIONS
POKER LAKE UNIT BIG SINKS 25 FEDERAL BATTERY
UNIT O SEC 25 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919149_PLU BIG SINKS 25 FEDERAL BATTERY (2RP-5551)\012919149_FIG04_EXCAVATION_5551.mxd

TABLE

TABLE 1
SOIL ANALYTICAL RESULTS

POKER LAKE UNIT BIG SINKS 25 FEDERAL BATTERY
REMEDIATION PERMIT NUMBER 2RP-5551
EDDY COUNTY, 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)
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**
SS01	0.5	07/09/2019	<0.00197	<0.00197	<0.00197	<0.00197	<0.00197	<15.0	26.9	<15.0	26.9	26.9	12,700
SS02	0.5	07/09/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	17.3	1,210	90.1	**1,230**	1,320	7,800
SS03	0.5	07/09/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	9,500
SS04	0.5	07/09/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	11,100
SS05	0.5	07/09/2019	<0.00196	<0.00196	<0.00196	<0.00196	<0.00196	<15.0	<15.0	<15.0	<15.0	<15.0	9,840
SS06	0.5	07/09/2019	<0.00200	0.0160	0.00480	0.0184	0.0392	<15.0	43.3	<15.0	43.3	43.3	14,600
SS07	0.5	07/09/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<14.9	11,100
SS08	0.5	07/09/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	9,840
PH01	2	01/09/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	283
PH01A	4	01/09/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	195
PH02	2	01/09/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	1,960
PH02A	3.75	01/09/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	<50.2	544
PH03	2	01/09/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.1	<50.1	<50.1	<50.1	<50.1	1,300
PH03A	3	01/09/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	2,250
PH04	2	12/20/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	6,740
PH04A	2.5	12/20/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	5,460
PH05	2	01/09/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	<50.2	3,000
PH05A	3	01/09/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	1,790
PH06	2	12/20/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	932
PH06A	3	12/20/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	567
PH07	2	12/20/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	903
PH07A	3.5	12/20/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	1,360

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TABLE 1
SOIL ANALYTICAL RESULTS

POKER LAKE UNIT BIG SINKS 25 FEDERAL BATTERY
REMEDIATION PERMIT NUMBER 2RP-5551
EDDY COUNTY, 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)
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**
PH08	2	12/20/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.1	<50.1	<50.1	<50.1	<50.1	1,190
PH08A	3.5	12/20/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	1,270
FS01	5	10/22/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	96.6
FS02	5	10/22/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	1,000
FS03	0.5	01/17/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.1	<50.1	<50.1	<50.1	<50.1	3,430
FS04	0.5	05/12/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.1	<50.1	<50.1	<50.1	<50.1	613
SW01	1 - 5	10/22/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	4,430
SW02	1 - 5	10/22/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	633
SW03	1 - 5	10/22/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	1,030
SW04	1 - 5	10/22/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	572

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
MRO - 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

A proud member of WSP

ATTACHMENT 1: PHOTOGRAPHIC LOG

View of surficial soil staining in the southern area of the release extent, south of the point of release, during site assessment activities.

Project: 012919149	XTO Energy, Inc. Poker Lake Unit Big Sinks 25 Federal Battery	LTE Advancing Opportunity
July 9, 2019	Photographic Log	

Southern view of scraped area on caliche well pad during confirmation soil sampling activities.

Project: 012919149	XTO Energy, Inc. Poker Lake Unit Big Sinks 25 Federal Battery	LTE Advancing Opportunity
January 17, 2020	Photographic Log	

ATTACHMENT 2: LABORATORY ANALYTICAL REPORTS

Certificate of Analysis Summary 661297

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 25 Federal Battery

Project Id: 012919149
Contact: Dan Moir
Project Location:

Date Received in Lab: Tue 05.12.2020 14:00
Report Date: 06.10.2020 13:57
Project Manager: Jessica Kramer

Analysis Requested								
	Lab Id:	661297-001						
	Field Id:	FS04						
	Depth:	0.5- ft						
	Matrix:	SOIL						
	Sampled:	05.12.2020 11:45						
BTEX by EPA 8021B	***Extracted:***	05.12.2020 14:21						
	Analyzed:	05.13.2020 10:11						
	Units/RL:	mg/kg	RL					
Benzene		<0.00202	0.00202					
Toluene		<0.00202	0.00202					
Ethylbenzene		<0.00202	0.00202					
m,p-Xylenes		<0.00404	0.00404					
o-Xylene		<0.00202	0.00202					
Total Xylenes		<0.00202	0.00202					
Total BTEX		<0.00202	0.00202					
Chloride by EPA 300	***Extracted:***	05.12.2020 17:52						
	Analyzed:	05.13.2020 03:38						
	Units/RL:	mg/kg	RL					
Chloride		613	10.0					
TPH by SW8015 Mod	***Extracted:***	05.13.2020 11:40						
	Analyzed:	05.14.2020 04:38						
	Units/RL:	mg/kg	RL					
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1					
Diesel Range Organics (DRO)		<50.1	50.1					
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1					
Total GRO-DRO		<50.1	50.1					
Total TPH		<50.1	50.1					

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

Jessica Kramer
Project Manager

Analytical Report 661297

for

LT Environmental, Inc.

Project Manager: Dan Moir

PLU Big Sinks 25 Federal Battery

012919149

06.10.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-32), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-23), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-17)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-7)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)

06.10.2020

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

Reference: XENCO Report No(s): **661297**
PLU Big Sinks 25 Federal Battery
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) 661297. 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. 661297 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

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 661297

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS04	S	05.12.2020 11:45	0.5 ft	661297-001

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU Big Sinks 25 Federal Battery

Project ID: *012919149*
Work Order Number(s): *661297*

Report Date: *06.10.2020*
Date Received: *05.12.2020*

Sample receipt non conformances and comments:

V1.001 Revision (client email) Corrected sample name from SS04 --> FS04 JK 06/10/20

Sample receipt non conformances and comments per sample:

None

Certificate of Analytical Results 661297

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	05.12.2020 14:00
Lab Sample Id:	661297-001	Date Collected:	05.12.2020 11:45	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.12.2020 17:52	Basis:	Wet Weight
Seq Number:	3125750				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**613**	10.0	mg/kg	05.13.2020 03:38		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH			% Moisture:	
Analyst:	DTH	Date Prep:	05.13.2020 11:40	Basis:	Wet Weight
Seq Number:	3125908				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	05.14.2020 04:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	05.14.2020 04:38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	05.14.2020 04:38	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	05.14.2020 04:38	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	05.14.2020 04:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	05.14.2020 04:38	
o-Terphenyl	84-15-1	118	%	70-135	05.14.2020 04:38	

Certificate of Analytical Results 661297

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 25 Federal Battery

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	05.12.2020 14:00
Lab Sample Id:	661297-001	Date Collected:	05.12.2020 11:45	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB			% Moisture:	
Analyst:	MAB	Date Prep:	05.12.2020 14:21	Basis:	Wet Weight
Seq Number:	3125867				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	05.13.2020 10:11	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	05.13.2020 10:11	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	05.13.2020 10:11	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	05.13.2020 10:11	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	05.13.2020 10:11	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	05.13.2020 10:11	U	1
Total BTEX		<0.00202	0.00202	mg/kg	05.13.2020 10:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	97	%	70-130	05.13.2020 10:11	
1,4-Difluorobenzene	540-36-3	108	%	70-130	05.13.2020 10:11	

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. **ND** Not Detected.

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

QC Summary 661297

LT Environmental, Inc.

PLU Big Sinks 25 Federal Battery

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3125750 — Matrix: Solid — Date Prep: 05.12.2020
MB Sample Id: 7703212-1-BLK — LCS Sample Id: 7703212-1-BKS — LCSD Sample Id: 7703212-1-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	251	100	250	100	90-110	0	20	mg/kg	05.13.2020 01:47	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3125750 — Matrix: Soil — Date Prep: 05.12.2020
Parent Sample Id: 661339-001 — MS Sample Id: 661339-001 S — MSD Sample Id: 661339-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	677	199	868	96	872	98	90-110	0	20	mg/kg	05.13.2020 02:04	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3125750 — Matrix: Soil — Date Prep: 05.12.2020
Parent Sample Id: 661339-011 — MS Sample Id: 661339-011 S — MSD Sample Id: 661339-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	717	200	897	90	898	91	90-110	0	20	mg/kg	05.13.2020 03:26	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3125908 — Matrix: Solid — Date Prep: 05.13.2020
MB Sample Id: 7703305-1-BLK — LCS Sample Id: 7703305-1-BKS — LCSD Sample Id: 7703305-1-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	991	99	996	100	70-135	1	35	mg/kg	05.14.2020 09:59	
Diesel Range Organics (DRO)	<50.0	1000	1110	111	1090	109	70-135	2	35	mg/kg	05.14.2020 09:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	135		123		122		70-135	%	05.14.2020 09:59
o-Terphenyl	135		124		121		70-135	%	05.14.2020 09:59

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3125908 — Matrix: Solid — Date Prep: 05.13.2020
MB Sample Id: 7703305-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	05.13.2020 12:23	

MS/MSD Percent Recovery — [D] = 100*(C-A) / B — LCS = Laboratory Control Sample — MS = Matrix Spike
Relative Percent Difference — RPD = 200* | (C-E) / (C+E) | — A = Parent Result — B = Spike Added
LCS/LCSD Recovery — [D] = 100 * (C) / [B] — C = MS/LCS Result — D = MSD/LCSD % Rec
Log Difference — Log Diff. = Log(Sample Duplicate) - Log(Original Sample) — E = MSD/LCSD Result

QC Summary 661297

LT Environmental, Inc.

PLU Big Sinks 25 Federal Battery

Analytical Method: TPH by SW8015 Mod | Prep Method: SW8015P
Seq Number: 3125908 | Matrix: Soil | Date Prep: 05.13.2020
Parent Sample Id: 661180-001 | MS Sample Id: 661180-001 S | MSD Sample Id: 661180-001 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	1010	101	1040	104	70-135	3	35	mg/kg	05.13.2020 23:07	
Diesel Range Organics (DRO)	1090	1000	2130	104	2300	121	70-135	8	35	mg/kg	05.13.2020 23:07	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		122		70-135	%	05.13.2020 23:07
o-Terphenyl	107		110		70-135	%	05.13.2020 23:07

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5035A
Seq Number: 3125867 | Matrix: Solid | Date Prep: 05.12.2020
MB Sample Id: 7703235-1-BLK | LCS Sample Id: 7703235-1-BKS | LCSD Sample Id: 7703235-1-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	0.111	111	0.103	103	70-130	7	35	mg/kg	05.12.2020 23:25	
Toluene	<0.00200	0.100	0.106	106	0.0977	98	70-130	8	35	mg/kg	05.12.2020 23:25	
Ethylbenzene	<0.00200	0.100	0.0993	99	0.0915	92	71-129	8	35	mg/kg	05.12.2020 23:25	
m,p-Xylenes	<0.00400	0.200	0.201	101	0.185	93	70-135	8	35	mg/kg	05.12.2020 23:25	
o-Xylene	<0.00200	0.100	0.103	103	0.0947	95	71-133	8	35	mg/kg	05.12.2020 23:25	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		104		104		70-130	%	05.12.2020 23:25
4-Bromofluorobenzene	96		92		94		70-130	%	05.12.2020 23:25

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5035A
Seq Number: 3125867 | Matrix: Soil | Date Prep: 05.12.2020
Parent Sample Id: 661298-001 | MS Sample Id: 661298-001 S | MSD Sample Id: 661298-001 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	0.104	104	0.0971	97	70-130	7	35	mg/kg	05.13.2020 00:06	
Toluene	<0.00200	0.0998	0.0970	97	0.0929	93	70-130	4	35	mg/kg	05.13.2020 00:06	
Ethylbenzene	<0.00200	0.0998	0.0887	89	0.0850	85	71-129	4	35	mg/kg	05.13.2020 00:06	
m,p-Xylenes	<0.00399	0.200	0.178	89	0.173	86	70-135	3	35	mg/kg	05.13.2020 00:06	
o-Xylene	<0.00200	0.0998	0.0911	91	0.0879	88	71-133	4	35	mg/kg	05.13.2020 00:06	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		103		70-130	%	05.13.2020 00:06
4-Bromofluorobenzene	94		100		70-130	%	05.13.2020 00:06

MS/MSD Percent Recovery [D] = 100*(C-A) / B
Relative Percent Difference RPD = 200* | (C-E) / (C+E) |
LCS/LCSD Recovery [D] = 100 * (C) / [B]
Log Difference 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 (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)
www.xenco.com

Work Order No: 602297

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:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	slo@ltenv.com, dmoir@ltenv.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	PLU Big Sinks 25 Federal Battery	Turn Around	
Project Number:	012919149	Routine	☑
P.O. Number:		Rush:	
Sampler's Name:	Spencer Lo	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	4.0	Thermometer ID	
Received Intact:	(Yes) No	T-NM-097	
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Total Containers:	1

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SS04	S	5.12.20	1145	0.5'	1	x	x	x

Work Order Notes

TAT starts the day recevied 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 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 **1631 / 245.1 / 7470 / 7471** : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		5.12.20 1400	2		
			4		
			6		

Revised Date 051418 Rev. 2018.1

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05.12.2020 02.00.00 PM

Work Order #: 661297

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)?	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**	Sample received in bulk container.
#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: 05.12.2020

Checklist reviewed by: Jessica Kramer Date: 05.14.2020

Jessica Kramer

APPENDIX 1: REFERENCED WELL RECORDS

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 01379	4	4	3	10	25S	30E	606571	3556355*

x

Driller License:	30	**Driller Company:**	BARRON, EMMETT		
Driller Name:	BARRON, EMMETT				
Drill Start Date:	01/22/1968	**Drill Finish Date:**	03/20/1968	**Plug Date:**	
Log File Date:	04/26/1968	**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:		**Depth Well:**	400 feet	**Depth Water:**	

x

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 03558 POD1	1	2	2	25	24S	30E	610412	3562651

x

Driller License:	1478	**Driller Company:**	STRAUB CORPORATION		
Driller Name:	EDWARD BRYAN				
Drill Start Date:	08/01/2012	**Drill Finish Date:**	08/01/2012	**Plug Date:**	08/01/2012
Log File Date:	08/13/2012	**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	0.00	**Depth Well:**	20 feet	**Depth Water:**	0 feet

x

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 03558 POD2	1	2	2	25	24S	30E	610412	3562651

x

Driller License:	1478	**Driller Company:**	STRAUB CORPORATION		
Driller Name:	BRYAN, EDWARD O.				
Drill Start Date:	08/01/2012	**Drill Finish Date:**	08/01/2012	**Plug Date:**	08/01/2012
Log File Date:	08/13/2012	**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	0.00	**Depth Well:**	20 feet	**Depth Water:**	0 feet

x

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 03558 POD3	1	2	2	25	24S	30E	610412	3562651

x

Driller License:	1478	**Driller Company:**	STRAUB CORPORATION		
Driller Name:	BRYAN, EDWARD O.				
Drill Start Date:	08/01/2012	**Drill Finish Date:**	08/01/2012	**Plug Date:**	08/01/2012
Log File Date:	08/13/2012	**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	0.00	**Depth Well:**	25 feet	**Depth Water:**	0 feet

x

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 03558 POD4	1	2	2	25	24S	30E	610412	3562651

x

Driller License: 1478 **Driller Company:** STRAUB CORPORATION

Driller Name: BRYAN, EDWARD O.

Drill Start Date: 08/01/2012 **Drill Finish Date:** 08/01/2012 **Plug Date:**

Log File Date: 08/13/2012 **PCW Rcv Date:** **Source:**

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: 0.00 **Depth Well:** 25 feet **Depth Water:** 0 feet

x

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 03558 POD5	1	2	2	25	24S	30E	610412	3562651

x

Driller License:	1478	**Driller Company:**	STRAUB CORPORATION		
Driller Name:	BRYAN, EDWARD O.				
Drill Start Date:	08/01/2012	**Drill Finish Date:**	08/01/2012	**Plug Date:**	08/01/2012
Log File Date:	08/13/2012	**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:	0.00	**Depth Well:**	30 feet	**Depth Water:**	0 feet

x

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 03702 POD1	4	1	4	24	24S	30E	610092	3563204

x

Driller License:	1711	**Driller Company:**	STRAUB CORPORATION		
Driller Name:	BRYAN, EDWARD (LD)				
Drill Start Date:	12/11/2013	**Drill Finish Date:**	12/11/2013	**Plug Date:**	
Log File Date:	12/23/2013	**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	
Casing Size:		**Depth Well:**	20 feet	**Depth Water:**	

x

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 02108		1	3	08	24S	30E	602702	3566487*

x

Driller License:		**Driller Company:**			
Driller Name:	UNKNOWN				
Drill Start Date:		**Drill Finish Date:**	12/31/1963	**Plug Date:**	
Log File Date:		**PCW Rcv Date:**		**Source:**	
Pump Type:		**Pipe Discharge Size:**		**Estimated Yield:**	16 GPM
Casing Size:	7.00	**Depth Well:**	200 feet	**Depth Water:**	186 feet

x

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 02110		4	3	23	24S	30E	608036	3562950*

x

Driller License: **Driller Company:**

Driller Name: UNKNOWN

Drill Start Date: **Drill Finish Date:** 12/31/1967 **Plug Date:**

Log File Date: **PCW Rcv Date:** **Source:**

Pump Type: **Pipe Discharge Size:** **Estimated Yield:** 15 GPM

Casing Size: 7.00 **Depth Well:** 600 feet **Depth Water:** 400 feet

x

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 02250	3	1	4	21	25S	31E	614912	3553620*

x

Driller License: **Driller Company:**

Driller Name: UNKNOWN

Drill Start Date: **Drill Finish Date:** 12/31/1941 **Plug Date:**

Log File Date: **PCW Rcv Date:** **Source:**

Pump Type: **Pipe Discharge Size:** **Estimated Yield:** 6 GPM

Casing Size: 8.63 **Depth Well:** 400 feet **Depth Water:** 390 feet

x

***UTM location was derived from PLSS - see Help**

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 03716 POD1	4	2	2	02	25S	30E	609069	3559211

x

Driller License: 1229 **Driller Company:** CARTER'S WELL DRILLING

Driller Name: RICHARD CARTER

Drill Start Date: 02/05/2014 **Drill Finish Date:** 03/03/2014 **Plug Date:**

Log File Date: 03/12/2014 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:** 50 GPM

Casing Size: **Depth Well:** 600 feet **Depth Water:** 425 feet

x

Water Bearing Stratifications:	Top	Bottom	Description
	442	600	Sandstone/Gravel/Conglomerate

x

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 03781 POD1	3	3	3	13	25S	30E	609306	3554761

x

Driller License: 331 **Driller Company:** SBQ2, LLC DBA STEWART BROTHERS DRILLING CO.

Driller Name:

Drill Start Date: 01/08/2015 **Drill Finish Date:** 01/10/2015 **Plug Date:**

Log File Date: 02/19/2015 **PCW Rcv Date:** **Source:** Artesian

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: 8.63 **Depth Well:** 720 feet **Depth Water:** 325 feet

x

Water Bearing Stratifications:	Top	Bottom	Description
	200	370	Sandstone/Gravel/Conglomerate
	370	390	Sandstone/Gravel/Conglomerate
	390	410	Sandstone/Gravel/Conglomerate
	410	440	Sandstone/Gravel/Conglomerate
	440	460	Shale/Mudstone/Siltstone
	460	470	Shale/Mudstone/Siltstone
	470	490	Shale/Mudstone/Siltstone
	490	500	Shale/Mudstone/Siltstone
	500	510	Sandstone/Gravel/Conglomerate
	510	530	Shale/Mudstone/Siltstone
	530	660	Shale/Mudstone/Siltstone
	660	690	Shale/Mudstone/Siltstone
	690	700	Shale/Mudstone/Siltstone
	700	720	Shale/Mudstone/Siltstone

x

Casing Perforations:	Top	Bottom
	340	720

x

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 03782 POD1	4	3	3	28	25S	30E	604526	3551444

x

Driller License: 331 **Driller Company:** SBQ2, LLC DBA STEWART BROTHERS DRILLING CO.

Driller Name:

Drill Start Date: 01/16/2015 **Drill Finish Date:** 01/17/2015 **Plug Date:**

Log File Date: 02/19/2015 **PCW Rcv Date:** **Source:** Artesian

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: 8.63 **Depth Well:** 805 feet **Depth Water:** 277 feet

x

Water Bearing Stratifications:	Top	Bottom	Description
	260	320	Sandstone/Gravel/Conglomerate
	320	380	Sandstone/Gravel/Conglomerate
	380	410	Sandstone/Gravel/Conglomerate
	410	530	Shale/Mudstone/Siltstone
	530	590	Shale/Mudstone/Siltstone
	590	600	Shale/Mudstone/Siltstone
	600	630	Shale/Mudstone/Siltstone
	630	650	Shale/Mudstone/Siltstone
	650	700	Shale/Mudstone/Siltstone
	700	710	Shale/Mudstone/Siltstone
	710	760	Shale/Mudstone/Siltstone
	760	770	Shale/Mudstone/Siltstone
	770	780	Shale/Mudstone/Siltstone
	780	790	Shale/Mudstone/Siltstone
	790	805	Shale/Mudstone/Siltstone

x

Casing Perforations:	Top	Bottom
	270	805

x

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 03891 POD1	4	4	2	01	25S	30E	610608	3558890

x

Driller License: 1723 **Driller Company:** SBQ2, LLC DBA STEWART BROTHERS DRILLING CO.

Driller Name:

Drill Start Date: 11/10/2015 **Drill Finish Date:** 11/14/2015 **Plug Date:**

Log File Date: 12/04/2015 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:** 33 GPM

Casing Size: 6.13 **Depth Well:** 635 feet **Depth Water:** 429 feet

x

Water Bearing Stratifications:	Top	Bottom	Description
	420	450	Sandstone/Gravel/Conglomerate
	450	460	Sandstone/Gravel/Conglomerate
	460	490	Sandstone/Gravel/Conglomerate
	490	500	Sandstone/Gravel/Conglomerate
	500	530	Sandstone/Gravel/Conglomerate
	530	635	Sandstone/Gravel/Conglomerate

x

Casing Perforations:	Top	Bottom
	460	635

x

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 03891 POD2	2	4	2	01	25S	30E	610607	3558967

x

Driller License: **Driller Company:**

Driller Name:

Drill Start Date: **Drill Finish Date:** **Plug Date:**

Log File Date: **PCW Rcv Date:** **Source:**

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: **Depth Well:** **Depth Water:**

x

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 03960 POD1	1	3	2	21	24S	30E	605062	3563712

x

Driller License: 1753 **Driller Company:** VANGUARD WATER WELLS

Driller Name: JACOBO FRIESSEN

Drill Start Date: 11/12/2016 **Drill Finish Date:** 11/12/2016 **Plug Date:**

Log File Date: 11/17/2016 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: 6.00 **Depth Well:** 475 feet **Depth Water:** 250 feet

x

Water Bearing Stratifications:	Top	Bottom	Description
	182	250	Sandstone/Gravel/Conglomerate
	402	460	Sandstone/Gravel/Conglomerate

x

Casing Perforations:	Top	Bottom
	250	290
	395	435

x

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 03894 POD1	1	2	2	01	25S	30E	610396	3559547

x

Driller License: **Driller Company:**

Driller Name:

Drill Start Date: **Drill Finish Date:** **Plug Date:**

Log File Date: **PCW Rcv Date:** **Source:**

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: **Depth Well:** **Depth Water:**

x

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 03894 POD2	1	2	2	01	25S	30E	610396	3559547

x

Driller License: **Driller Company:**

Driller Name:

Drill Start Date: **Drill Finish Date:** **Plug Date:**

Log File Date: **PCW Rcv Date:** **Source:**

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: **Depth Well:** **Depth Water:**

x

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 03894 POD3	1	2	2	01	25S	30E	610396	3559547

x

Driller License: **Driller Company:**

Driller Name:

Drill Start Date: **Drill Finish Date:** **Plug Date:**

Log File Date: **PCW Rcv Date:** **Source:**

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: **Depth Well:** **Depth Water:**

x

New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 03894 POD4	2	1	1	01	25S	30E	609789	3614977

x

Driller License: **Driller Company:**

Driller Name:

Drill Start Date: **Drill Finish Date:** **Plug Date:**

Log File Date: **PCW Rcv Date:** **Source:**

Pump Type: **Pipe Discharge Size:** **Estimated Yield:**

Casing Size: **Depth Well:** **Depth Water:**

x

USGS 320643103465002 25S.31E.21.413314A

Available data for this site

Well Site

DESCRIPTION:

Latitude 32°06'46.0", Longitude 103°46'56.3" NAD83
Eddy County, New Mexico , Hydrologic Unit 13070001
Well depth: 400 feet
Land surface altitude: 3,374.00 feet above NGVD29.
Well completed in "Alluvium, Bolson Deposits and Other Surface Deposits" (110AVMB) local aquifer

AVAILABLE DATA:

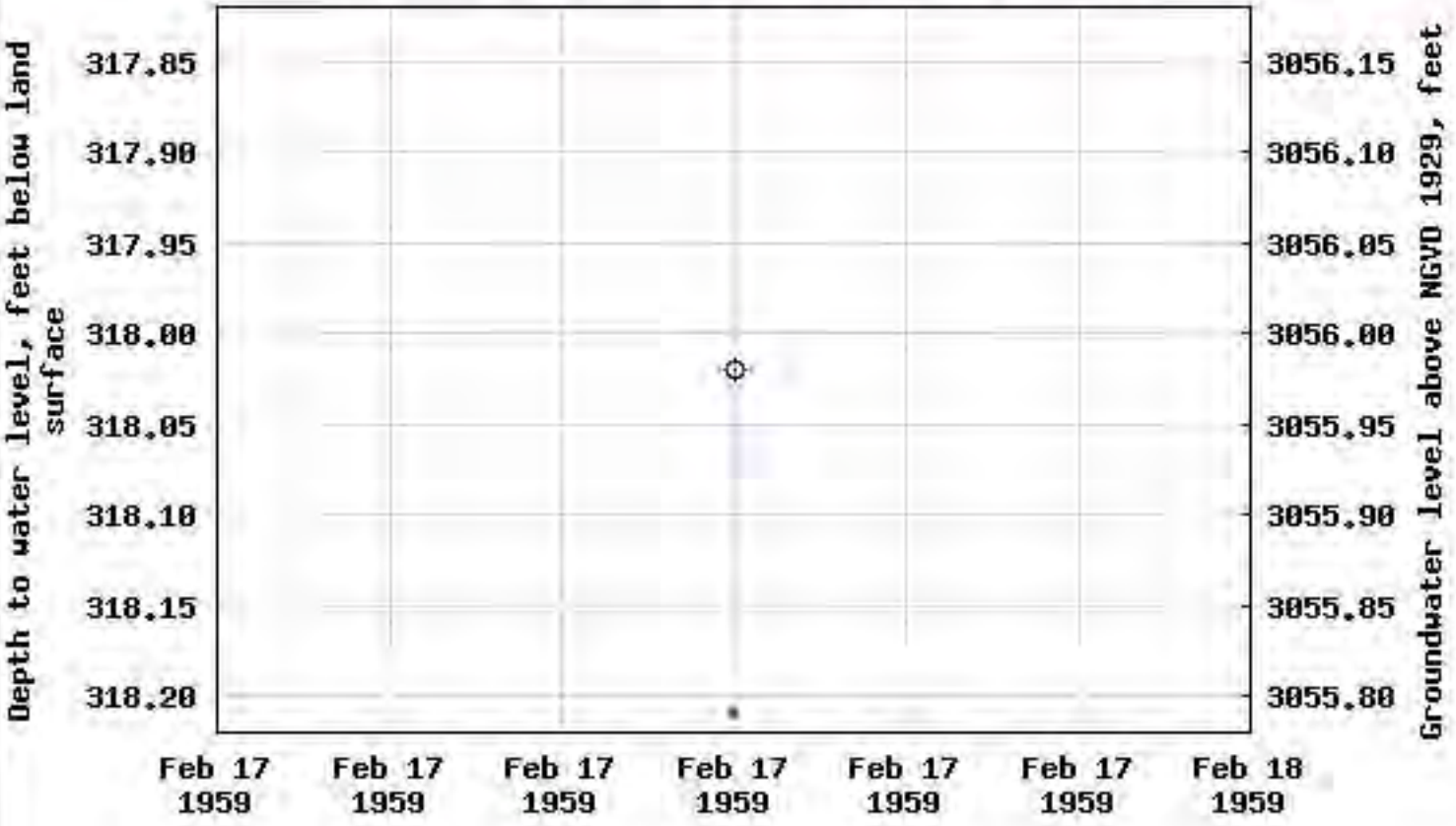
Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1959-02-17	2013-01-17	2
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

USGS

USGS 320643103465002 25S.31E.21.413314A



USGS 320739103584201 25S.29E.15.31134

Available data for this site

Well Site

DESCRIPTION:

Latitude 32°07'39", Longitude 103°58'42" NAD27
Eddy County, New Mexico , Hydrologic Unit 13060011
Well depth: 192 feet
Land surface altitude: 3,017 feet above NAVD88.
Well completed in "Rustler Formation" (312RSLR) local aquifer

AVAILABLE DATA:

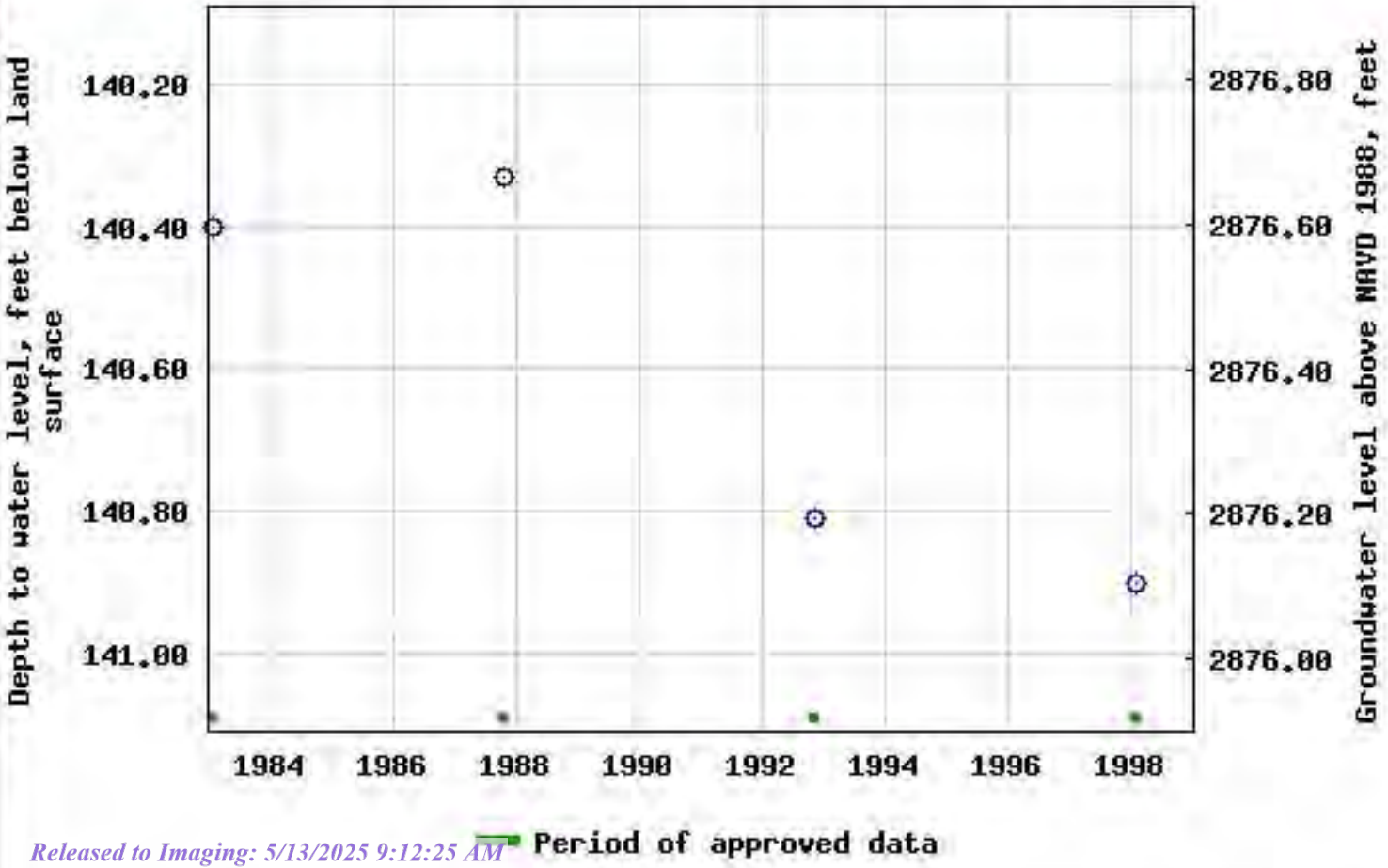
Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1983-02-01	1998-01-29	4
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

USGS

USGS 320739103584201 25S.29E.15.31134



USGS 320857103553301 25S.30E.07.112331

Available data for this site

Well Site

DESCRIPTION:

Latitude 32°08'57", Longitude 103°55'33" NAD27
Eddy County, New Mexico , Hydrologic Unit 13060011
Well depth: 385 feet
Land surface altitude: 3,169 feet above NAVD88.
Well completed in "Alluvium, Bolson Deposits and Other Surface Deposits" (110AVMB) local aquifer

AVAILABLE DATA:

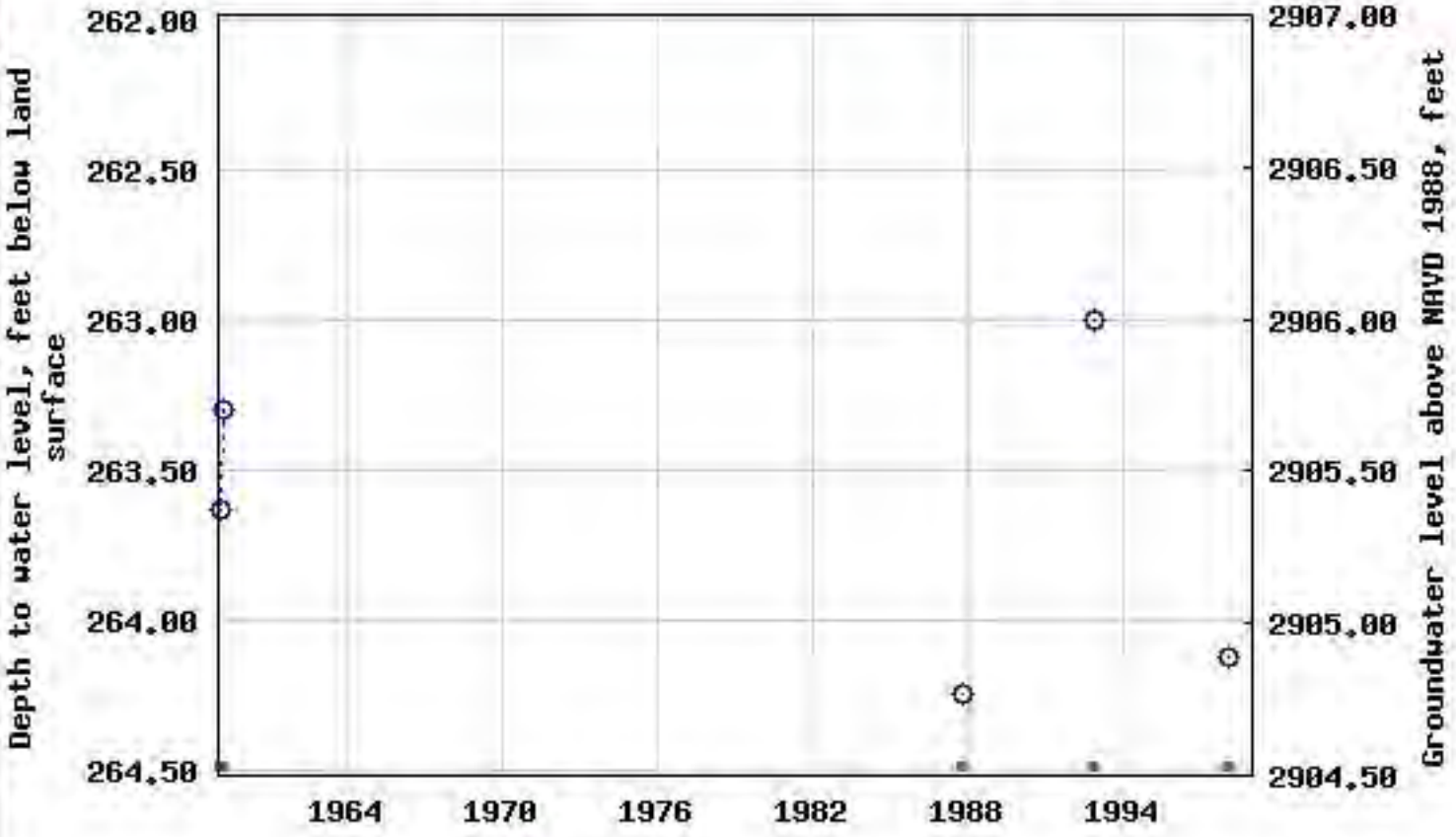
Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1959-02-05	1998-01-28	5
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

USGS

USGS 320857103553301 25S.30E.07.112331



USGS 320956103503001 24S.30E.36.33333

Available data for this site

Well Site

DESCRIPTION:

Latitude 32°09'56", Longitude 103°50'30" NAD27
Eddy County, New Mexico , Hydrologic Unit 13060011
Well depth: 480 feet
Land surface altitude: 3,408 feet above NAVD88.
Well completed in "Rustler Formation" (312RSLR) local aquifer

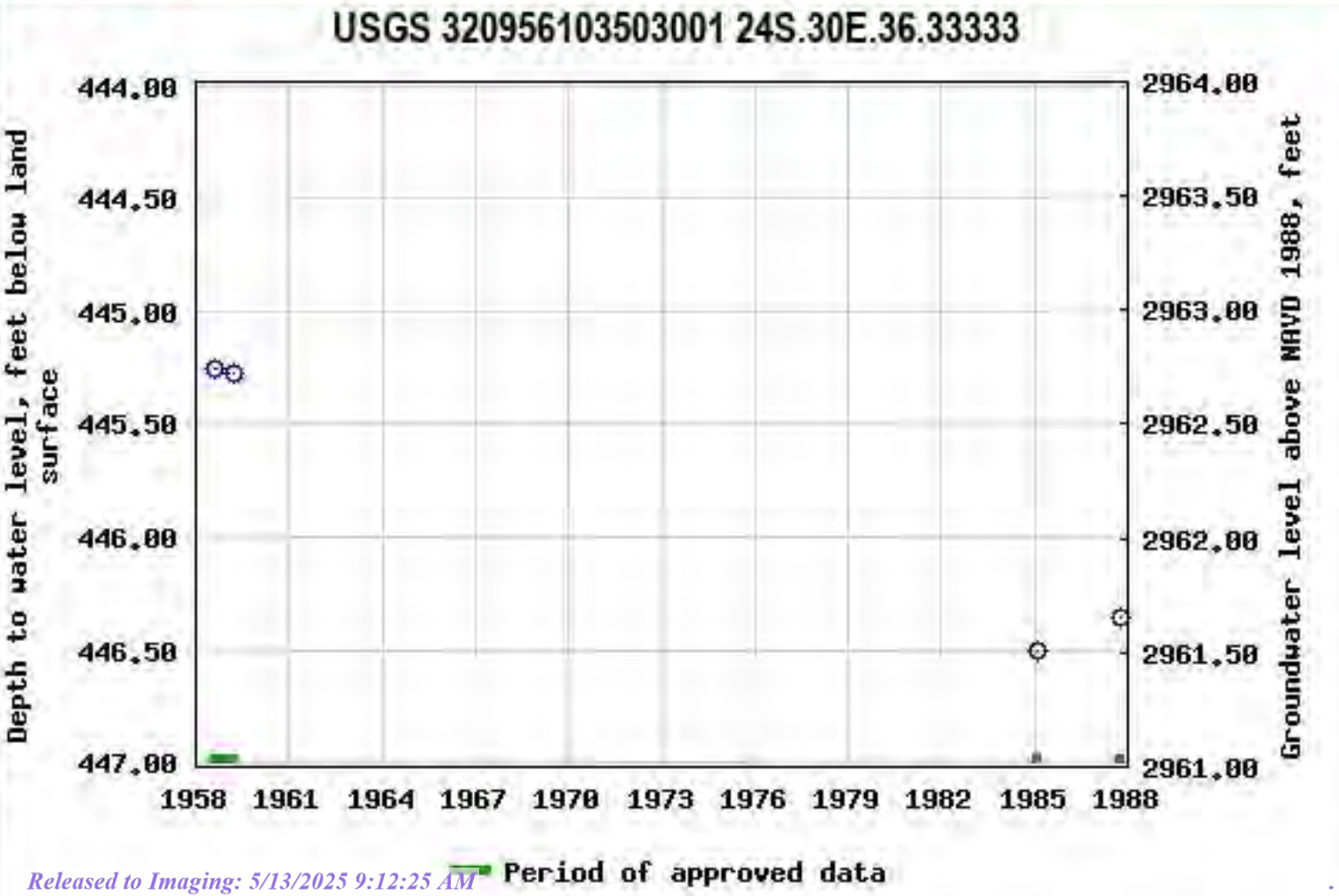
AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1958-08-19	1987-10-15	4
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

USGS


USGS 320956103503001 24S.30E.36.33333
Depth to water level, feet below land surface
444.00
444.50
445.00
445.50
446.00
446.50
447.00
Groundwater level above NAVD 1988, feet
2964.00
2963.50
2963.00
2962.50
2962.00
2961.50
2961.00
1958
1961
1964
1967
1970
1973
1976
1979
1982
1985
1988
Period of approved data

USGS 321203103511801 24S.30E.23.3124143

Available data for this site

Well Site

DESCRIPTION:

Latitude 32°12'03", Longitude 103°51'18" NAD27
Eddy County, New Mexico , Hydrologic Unit 13060011
Well depth: 474 feet
Land surface altitude: 3,423 feet above NAVD88.
Well completed in "Rustler Formation" (312RSLR) local aquifer

AVAILABLE DATA:

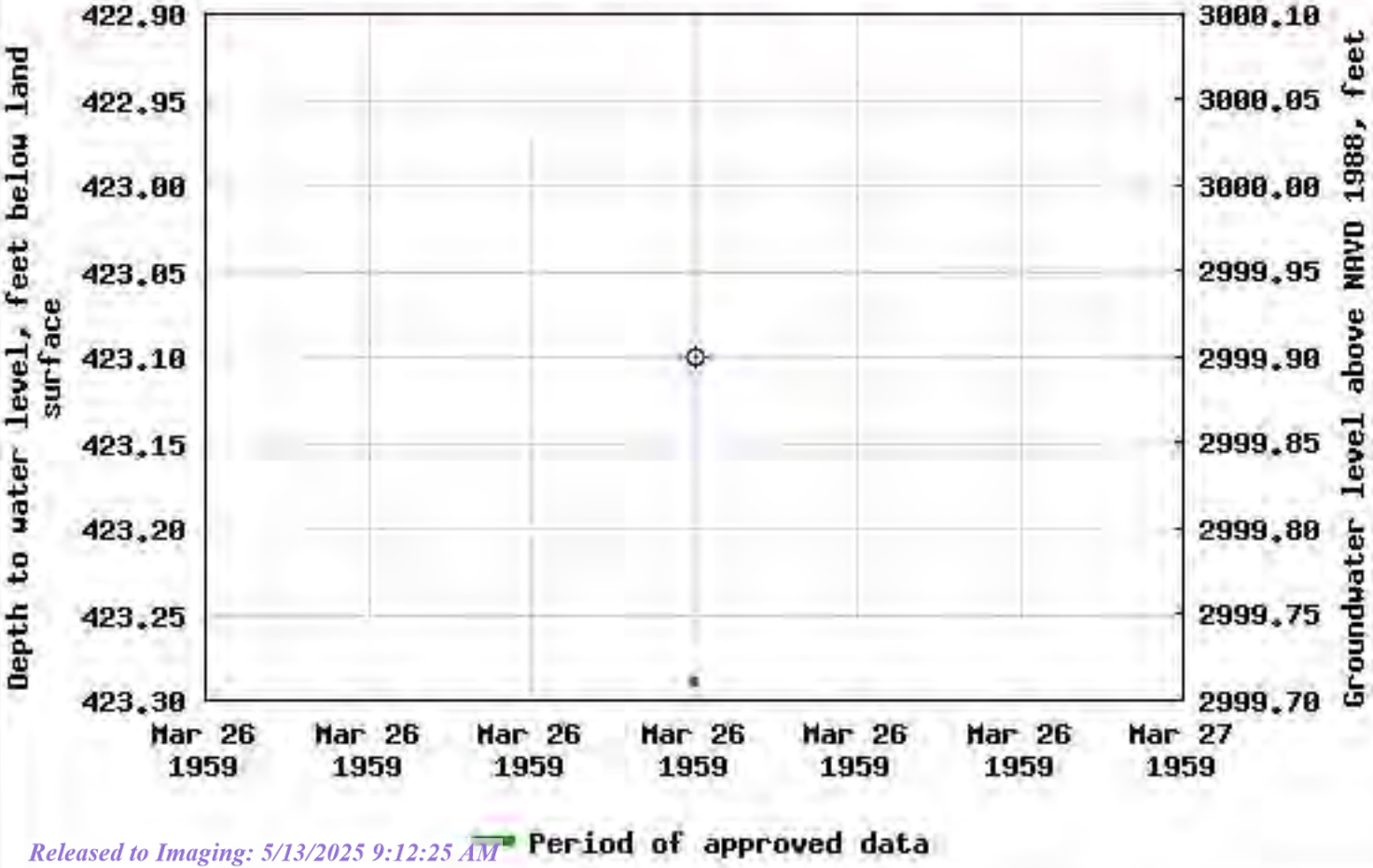
Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1959-03-26	1959-03-26	1
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

USGS

USGS 321203103511801 24S.30E.23.3124143



USGS 321334103494901 24S.30E.12.432344

Available data for this site

Well Site

DESCRIPTION:

Latitude 32°13'34", Longitude 103°49'49" NAD27
Eddy County, New Mexico , Hydrologic Unit 13060011
Well depth: 500 feet
Land surface altitude: 3,522 feet above NAVD88.
Well completed in "Rustler Formation" (312RSLR) local aquifer

AVAILABLE DATA:

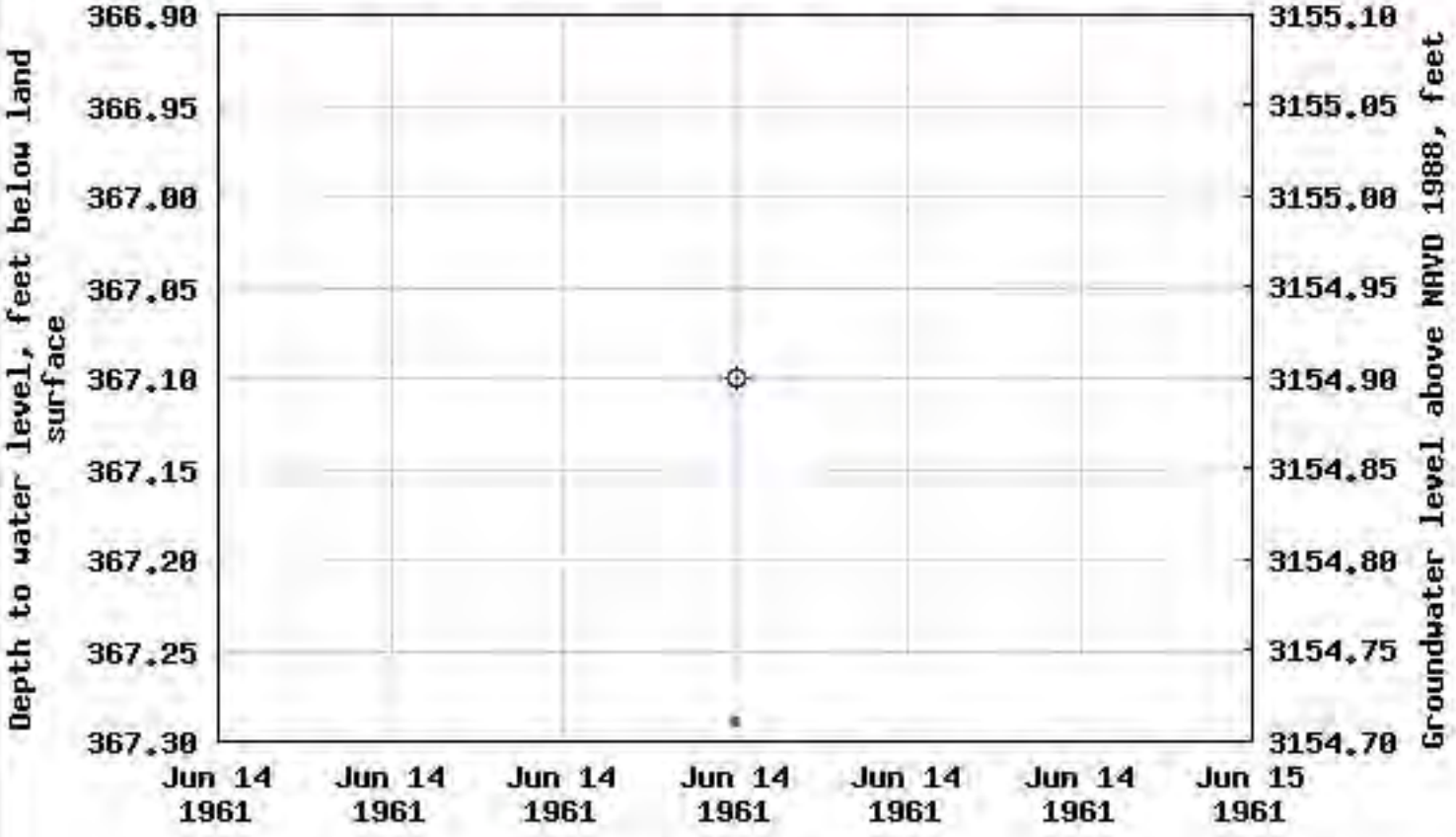
Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1961-06-14	1961-06-14	1
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

USGS

USGS 321334103494901 24S.30E.12.432344



ENSOLUM

APPENDIX C

September 24, 2021
Closure Request Addendum

WSP USA
3300 North "A" Street
Building 1, Unit 222
Midland, Texas 79705
432.704.5178

September 24, 2021

District II
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210

RE: Closure Request Addendum
PLU Big Sinks 25 Federal Battery
Remediation Permit Number 2RP-5551
Incident Number NAB1921742793
Eddy County, New Mexico

To Whom It May Concern:

WSP USA Inc. (WSP) on behalf of XTO Energy, Inc. (XTO), presents the following addendum to a previous Closure Request Addendum submitted June 26, 2020. This Addendum provides an update to the depth to groundwater determination and horizontal delineation activities completed at the Poker Lake Unit (PLU) Big Sinks 25 Federal Battery (Site), located in Unit O, Section 25, Township 24 South, Range 30 East, in Eddy County, New Mexico (Figure 1), in response to the denial of the Closure Request by the New Mexico Oil Conservation Division (NMOCD). In the denial, NMOCD expressed concern that the depth to groundwater assessment and horizontal delineation may not be sufficient. Based on the additional depth to groundwater determination and delineation activities described below, XTO is requesting no further action (NFA) for Incident Number NAB1921742793.

BACKGROUND

On July 7, 2019 a release occurred from a corrosion hole in a pipeline riser, resulting in the release of approximately 67.65 barrels (bbls) of produced water onto the caliche well pad and onto the adjacent developed right-of-way (ROW). Approximately 55 bbls of produced water were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 (Form C-141) on July 17, 2019. The release was assigned Remediation Permit (RP) Number 2RP-5551 and Incident Number NAB1921742793.

A Closure Request was submitted on January 22, 2020 detailing remediation activities, including excavation and delineation soil sampling. The Closure Request detailed site characterization according to Table 1, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Based on the site characterization, the following Closure Criteria were applied:

- Benzene: 10 milligrams per kilogram (mg/kg)

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

On March 16, 2020, NMOCD denied the Closure Request via email requesting additional depth to groundwater determination and excavation confirmation sampling. A Closure Request Addendum was submitted on June 26, 2020, following the additional excavation sampling and providing additional depth to groundwater information.

On July 20, 2021, NMOCD denied the Closure Request Addendum for the following reasons:

- *Horizontal delineation submitted was incomplete and did not meet the requirements of 19.15.29.11 NMAC. The values for determination of horizontal impact are derived by either approved "background" values or Table I Closure Criteria for releases where groundwater is at a depth of 50 feet or less. This is especially important for "on-pad" releases to ensure the release did not extend to the "off-pad"/pasture area. A visual footprint on the surface is not sufficient to assess the horizontal extent of the release. Laboratory data must be provided as evidence of delineation efforts. Any sample exceeding approved "background" values or Table I Closure Criteria for releases where groundwater is at a depth of 50 feet or less requires additional samples for horizontal delineation.*
- *The depth to groundwater has not been adequately determined. When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided in the submission. The responsible party may choose to remediate to the most stringent levels listed in Table 1 of 19.15.29 NMAC in lieu of drilling to determine the depth to groundwater.*

Following the second denial, additional depth to groundwater determination and horizontal delineation sampling activities were completed at the Site.

ADDITIONAL DEPTH TO GROUNDWATER ASSESSMENT ACTIVITIES

In an effort to confirm the depth to groundwater determination, WSP oversaw installation a soil boring within 0.5 miles of the Site utilizing a truck-mounted hollow-stem auger rig. Soil boring C-4484 was drilled to a depth of 110 feet bgs. A WSP geologist logged and described soils continuously. No moisture or groundwater was encountered during drilling activities. The Well Record and Log is included in Attachment 1. The location of the borehole is approximately 665 feet northeast of the site and is depicted on Figure 1. The borehole was left open for over 72

hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater beneath the Site is greater than 110 feet bgs. The borehole was properly abandoned with drill cuttings and hydrated bentonite chips. Based on the confirmed depth to water greater than 110 feet bgs, the Table 1 Closure Criteria identified in the original Closure Request are applicable and appropriate for protection of groundwater at this Site.

ADDITIONAL DELINEATION ACTIVITIES

On August 12, 2021, WSP personnel returned to the Site to collect additional horizontal delineation samples from the pasture areas adjacent to the release extent. Delineation samples SS01 through SS04 were collected in the pasture areas south and west of the pad from a depth of approximately 0.5 feet bgs. Soil from the delineation samples was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The delineation soil sample locations are depicted on Figure 2.

The delineation 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 Eurofins Laboratories (Xenco) in Midland, Texas, for analysis of BTEX following United States Environmental Protection Agency (USEPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following USEPA Method 8015M/D; and chloride following USEPA Method 300.0.

Laboratory analytical results for delineation samples SS01 through SS04, collected in the pasture from a depth of approximately 0.5 feet bgs, indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria and compliant with the most stringent Table 1 Closure Criteria. The soil sample analytical results are summarized on Table 1 and the complete laboratory analytical reports are included in Attachment 2.

CLOSURE REQUEST

Site assessment and excavation activities were completed at the Site to address the impacted soil resulting from the July 7, 2019 release of produced water at the Site. Based on the confirmed depth to water greater than 110 feet bgs, laboratory analytical results below the Site Closure Criteria in the delineation and excavation soil samples, and horizontal delineation in the adjacent pasture areas to below the most stringent Table 1 Closure Criteria, XTO respectfully requests no further action for Incident Number NAB1921742793.

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

Sincerely,

WSP USA, INC.

Kaleb Henry
Consultant, geologist

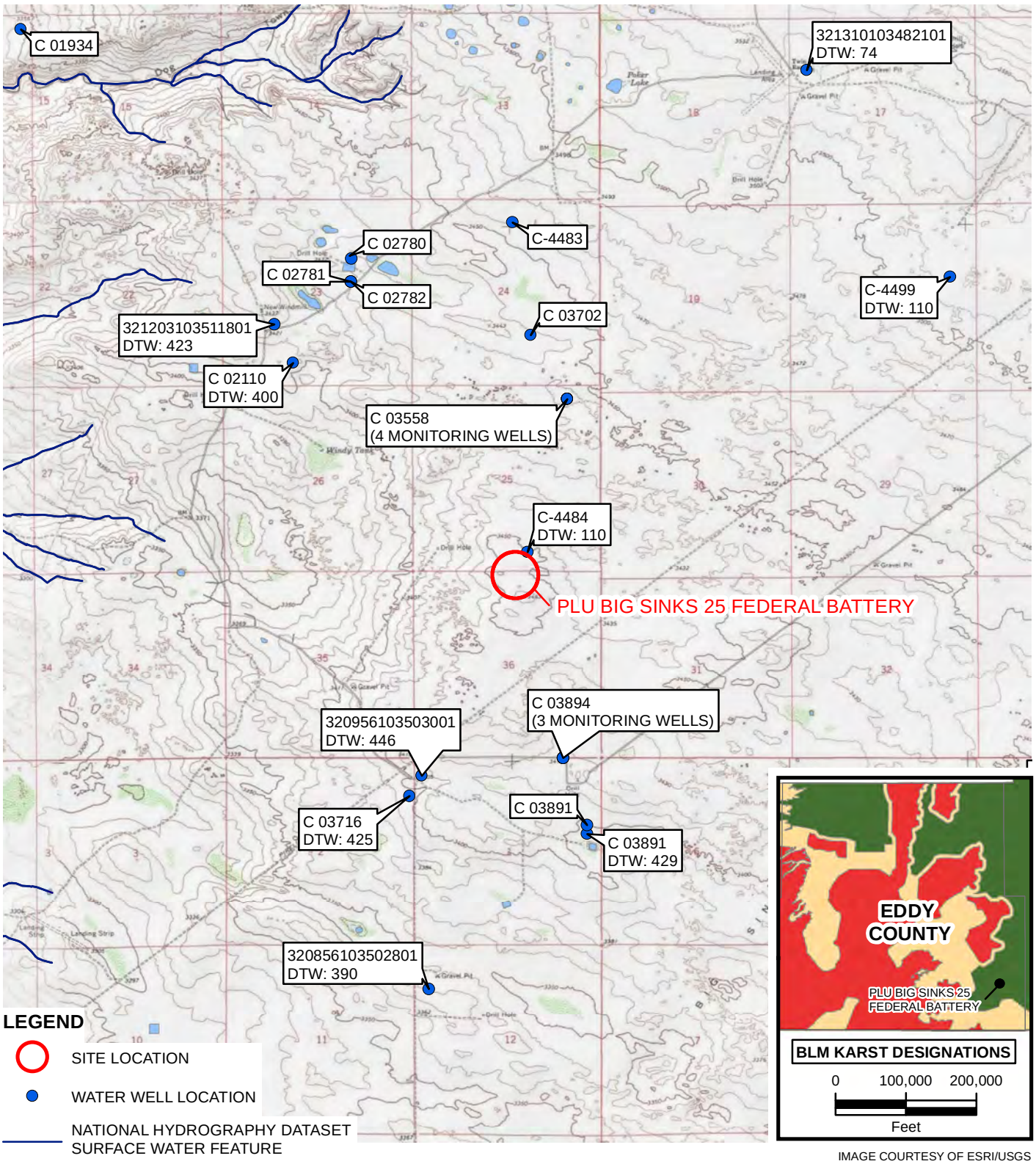
Ashley L. Ager, P.G.
Managing Director, Geologist

cc: Shelby Pennington, XTO
Adrian Baker, XTO
New Mexico State Land Office
Bureau of Land Management

Attachments:

Figure 1	Site Location Map
Figure 2	Soil Sample Locations
Table 1	Soil Sample Analytical Results
Attachment 1	Well Record and Log
Attachment 2	Laboratory Analytical Reports

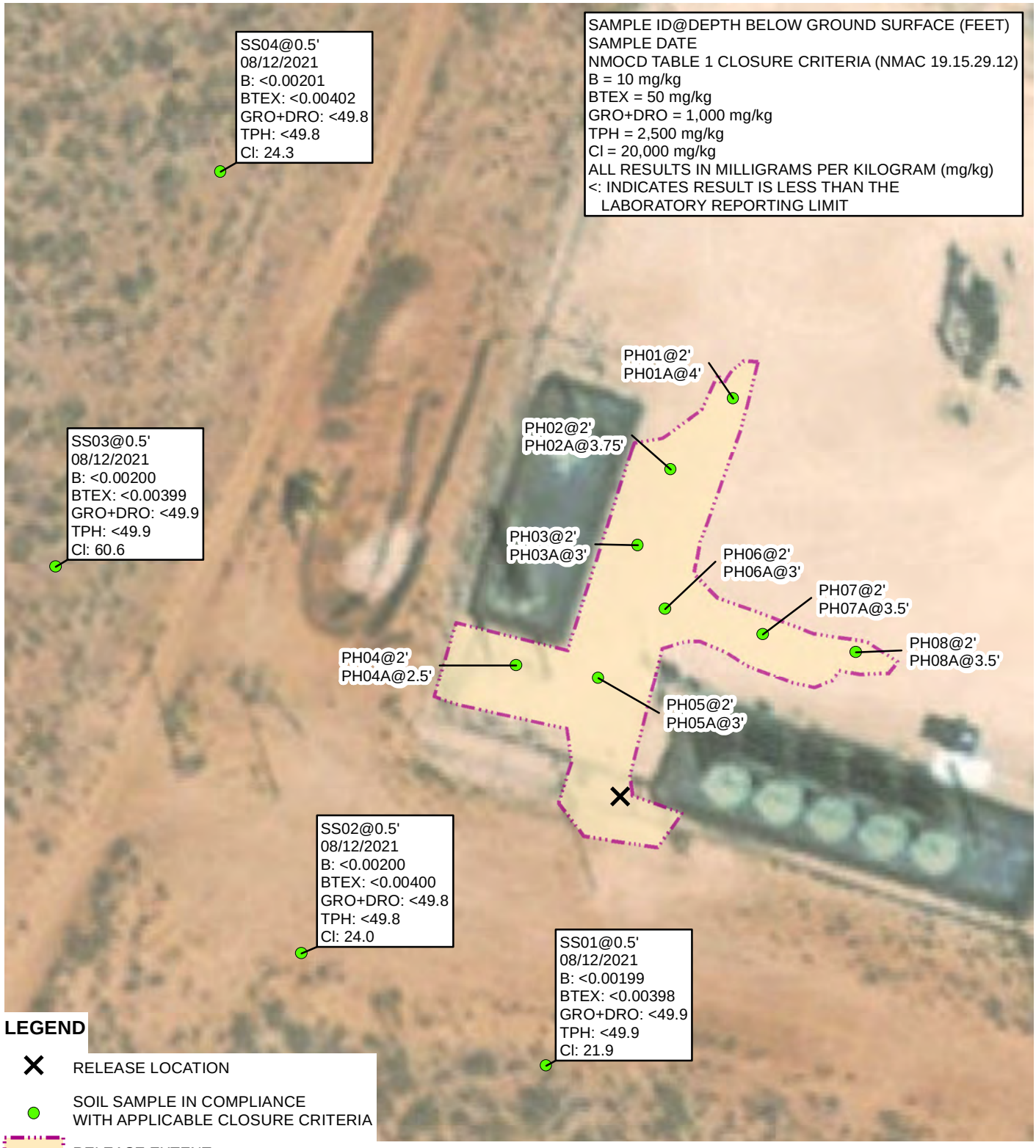
FIGURES



DTW: DEPTH TO WATER IN FEET
BLM: BUREAU OF LAND MANAGEMENT
TD: TOTAL DEPTH IN FEET
NOTE: INCIDENT NUMBER NAB1921742793

FIGURE 1
SITE LOCATION MAP
PLU BIG SINKS 25 FEDERAL BATTERY
UNIT O SEC 25 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC

P:\XTO Energy\GIS\31403236.020.0129.04_PLU BIG SINKS 25 FEDERAL BATTERY\MXD\31403236.020.0129.04_FIG01_SL_RECEPTOR_2021.mxd



B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 2RP-5551
INCIDENT NUMBER NAB1921742793

FIGURE 2
SOIL SAMPLE LOCATIONS
PLU BIG SINKS 25 FEDERAL BATTERY
UNIT O SEC 25 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\31403236.020.0129.04_PLU BIG SINKS 25 FEDERAL BATTERY\MXD\31403236.020.0129.04_FIG02_PRELIMINARY_5551.mxd

TABLES

Table 1

Soil Analytical Results
PLU Big Sinks 25 Federal Battery
Incident Number NAB1921742793
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Surface Samples										
SS01	08/12/2021	0.5	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	21.9
SS02	08/12/2021	0.5	<0.00200	<0.00400	<49.8	<49.8	<49.8	<49.8	<49.8	24.0
SS03	08/12/2021	0.5	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	60.6
SS04	08/12/2021	0.5	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	24.3

ft - feet/foot
mg/kg - milligrams per kilograms
BTEX - benzene, toluene, ethylbenzene, and total xylenes
TPH - total petroleum hydrocarbons
DRO - diesel range organics
GRO - gasoline range organics
ORO - motor oil range organics
NMOCD - New Mexico Oil Conservation Division
NMAC - New Mexico Administrative Code
< - indicates result is less than the stated laboratory method practical quantitation limit
NE - Not Established
BOLD - indicates results exceed the higher of the background sample result or applicable regulatory standard

ATTACHMENT 1: REFERENCED WELL RECORDS

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD1 (BH-01)	n/a	C-4484

WELL OWNER NAME(S)	PHONE (OPTIONAL)
XTO Energy (Kyle Littrell)	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
6401 Holiday Hill Dr.	Midland	TX	79707

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32°	10'	59.14"	N
	LONGITUDE	-104°	49'	56.41"	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND

* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

SW SW SE Sec. 25 T24S R30E

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1249	Jackie D. Atkins	Atkins Engineering Associates, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
11/19/2020	11/19/2020	temporary well material	110	n/a

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): n/a

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☑ OTHER – SPECIFY: Hollow Stem Auger

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	110	±8.5	Boring- HSA	--	--	--	--

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT

OSE DII DEC 17 2020 PM3:30

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 06/30/17)

FILE NO.	C-4484	POD NO.	1	TRN NO.	679350
LOCATION	343 T24S R30E Sec 25			WELL TAG ID NO.	NA

PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES (attach supplemental sheets to fully describe all units)	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	1	1	Sand, Fine-grained,poorly-graded, Reddish-Brown	Y ✓ N	
1	4	3	Sand, Fine-grained,poorly-graded, with caliche, Reddish-Brown	Y ✓ N	
4	34	30	Caliche, well consolidated, Off-white, moist	Y ✓ N	
34	91	57	Sandstone, Fine-grained, poorly-graded, poorly consolidated , Light Bronw-Tan	Y ✓ N	
91	110	19	Sandstone, Fine-grained, poorly-graded, moderately consolidated , Light Bronw-	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

WELL TEST: TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION: Temporary well materials removed and the soil boring backfilled using drill cuttings from total depth to ten feet below ground surface, then hydrated bentonite chips from ten feet below ground surface to surface. Logs adapted from LTE on-site geologist.

OSE DII DEC 17 2020 PM3:30

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

Shane Eldridge

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

Jack Atkins — Jackie D. Atkins — 12/14/20

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 06/30/2017)

FILE NO. C-4484	POD NO. 1	TRN NO. 679350	
LOCATION 343 T24S R30E Sec25		WELL TAG ID NO. NA	PAGE 2 OF 2

John R. D Antonio, Jr., P.E.
State Engineer

Roswell Office
1900 WEST SECOND STREET
ROSWELL, NM 88201

STATE OF NEW MEXICO
OFFICE OF THE STATE ENGINEER

Trn Nbr: 679350
File Nbr: C 04484
Well File Nbr: C 04484 POD1

Jan. 22, 2021

KALEI JENNINGS
LT ENVIRONMENTAL INC
508 WEST STEVENS
CARLSBAD, NM 88220

Greetings:

The above numbered permit was issued in your name on 09/29/2020.

The Well Record was received in this office on 12/17/2020, stating that it had been completed on 11/19/2020, and was a dry well. The well is to be plugged according to 19.27.4.30 NMAC.

Please note that another well can be drilled under this permit if the well is completed and the well log filed on or before 09/29/2021.

If you have any questions, please feel free to contact us.

Sincerely,

Andrew Dennis
(575)622-6521

drywell

ATTACHMENT 2: LABORATORY ANALYTICAL RESULTS

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Xenco, Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-1108-1
Laboratory Sample Delivery Group: 31403236.020.0129
Client Project/Site: PLU Big Sinks 25 Federal Battery

For:
WSP USA Inc.
2777 N. Stemmons Freeway
Suite 1600
Dallas, Texas 75207

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
8/19/2021 3:03:20 PM

Jessica Kramer, Project Manager
(432)704-5440
jessica.kramer@eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-1108-1
Project/Site: PLU Big Sinks 25 Federal Battery SDG: 31403236.020.0129

Qualifiers

GC VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*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.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	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: WSP USA Inc. Job ID: 890-1108-1
Project/Site: PLU Big Sinks 25 Federal Battery SDG: 31403236.020.0129

Job ID: 890-1108-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1108-1

Receipt
The samples were received on 8/13/2021 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.0°C

GC VOA
Method 8021B: The laboratory control sample (LCS) associated with preparation batch 880-6476 and analytical batch 880-6599 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8021B: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-6476 and analytical batch 880-6599 recovered outside control limits for the following analytes: Benzene

Method 8021B: Surrogate recovery for the following sample was outside control limits: SS04 (890-1108-4). 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.

GC Semi VOA
Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-6609 and analytical batch 880-6610 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: PLU Big Sinks 25 Federal Battery

Job ID: 890-1108-1
SDG: 31403236.020.0129

Client Sample ID: SS01

Lab Sample ID: 890-1108-1
Matrix: Solid
Date Collected: 08/12/21 11:38
Date Received: 08/13/21 09:30
Sample Depth: - 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *- *1	0.00199		mg/Kg		08/16/21 16:39	08/17/21 05:01	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/16/21 16:39	08/17/21 05:01	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/16/21 16:39	08/17/21 05:01	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		08/16/21 16:39	08/17/21 05:01	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/16/21 16:39	08/17/21 05:01	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		08/16/21 16:39	08/17/21 05:01	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		08/16/21 16:39	08/17/21 05:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*08/16/21 16:39*	*08/17/21 05:01*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*08/16/21 16:39*	*08/17/21 05:01*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		08/16/21 12:02	08/16/21 21:10	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/16/21 12:02	08/16/21 21:10	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/16/21 12:02	08/16/21 21:10	1
Total TPH	<49.9	U	49.9		mg/Kg		08/16/21 12:02	08/16/21 21:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*78*		*70 - 130*	*08/16/21 12:02*	*08/16/21 21:10*	*1*
o-Terphenyl	*86*		*70 - 130*	*08/16/21 12:02*	*08/16/21 21:10*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**21.9**		4.95		mg/Kg			08/18/21 12:50	1

Client Sample ID: SS02

Lab Sample ID: 890-1108-2
Matrix: Solid
Date Collected: 08/12/21 11:40
Date Received: 08/13/21 09:30
Sample Depth: - 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *- *1	0.00200		mg/Kg		08/16/21 16:39	08/17/21 05:21	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/16/21 16:39	08/17/21 05:21	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/16/21 16:39	08/17/21 05:21	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/16/21 16:39	08/17/21 05:21	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/16/21 16:39	08/17/21 05:21	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/16/21 16:39	08/17/21 05:21	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		08/16/21 16:39	08/17/21 05:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*	*08/16/21 16:39*	*08/17/21 05:21*	*1*
1,4-Difluorobenzene (Surr)	*88*		*70 - 130*	*08/16/21 16:39*	*08/17/21 05:21*	*1*

Client Sample Results

Client: WSP USA Inc. Job ID: 890-1108-1
Project/Site: PLU Big Sinks 25 Federal Battery SDG: 31403236.020.0129

Client Sample ID: SS02 Lab Sample ID: 890-1108-2

Date Collected: 08/12/21 11:40 **Matrix: Solid**
Date Received: 08/13/21 09:30
Sample Depth: - 0.5

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		08/16/21 12:02	08/16/21 21:32	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/16/21 12:02	08/16/21 21:32	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/16/21 12:02	08/16/21 21:32	1
Total TPH	<49.8	U	49.8		mg/Kg		08/16/21 12:02	08/16/21 21:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*80*		*70 - 130*	*08/16/21 12:02*	*08/16/21 21:32*	*1*
o-Terphenyl	*90*		*70 - 130*	*08/16/21 12:02*	*08/16/21 21:32*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**24.0**		4.99		mg/Kg			08/18/21 19:18	1

Client Sample ID: SS03 Lab Sample ID: 890-1108-3

Date Collected: 08/12/21 11:49 **Matrix: Solid**
Date Received: 08/13/21 09:30
Sample Depth: - 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U *- *1	0.00200		mg/Kg		08/16/21 16:39	08/17/21 05:41	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/16/21 16:39	08/17/21 05:41	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/16/21 16:39	08/17/21 05:41	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		08/16/21 16:39	08/17/21 05:41	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/16/21 16:39	08/17/21 05:41	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		08/16/21 16:39	08/17/21 05:41	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		08/16/21 16:39	08/17/21 05:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*123*		*70 - 130*	*08/16/21 16:39*	*08/17/21 05:41*	*1*
1,4-Difluorobenzene (Surr)	*93*		*70 - 130*	*08/16/21 16:39*	*08/17/21 05:41*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		08/16/21 12:02	08/16/21 21:54	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		08/16/21 12:02	08/16/21 21:54	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		08/16/21 12:02	08/16/21 21:54	1
Total TPH	<49.9	U	49.9		mg/Kg		08/16/21 12:02	08/16/21 21:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*75*		*70 - 130*	*08/16/21 12:02*	*08/16/21 21:54*	*1*
o-Terphenyl	*76*		*70 - 130*	*08/16/21 12:02*	*08/16/21 21:54*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**60.6**		5.04		mg/Kg			08/18/21 19:35	1

Client Sample Results

Client: WSP USA Inc.
Project/Site: PLU Big Sinks 25 Federal Battery

Job ID: 890-1108-1
SDG: 31403236.020.0129

Client Sample ID: SS04

Date Collected: 08/12/21 11:53
Date Received: 08/13/21 09:30
Sample Depth: - 0.5

Lab Sample ID: 890-1108-4

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U *- *1	0.00201		mg/Kg		08/16/21 16:39	08/17/21 06:02	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/16/21 16:39	08/17/21 06:02	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		08/16/21 16:39	08/17/21 06:02	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		08/16/21 16:39	08/17/21 06:02	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		08/16/21 16:39	08/17/21 06:02	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		08/16/21 16:39	08/17/21 06:02	1
Total BTEX	<0.00402	U	0.00402		mg/Kg		08/16/21 16:39	08/17/21 06:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*136*	*S1+*	*70 - 130*	*08/16/21 16:39*	*08/17/21 06:02*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*08/16/21 16:39*	*08/17/21 06:02*	*1*

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		08/16/21 12:02	08/16/21 22:15	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		08/16/21 12:02	08/16/21 22:15	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		08/16/21 12:02	08/16/21 22:15	1
Total TPH	<49.8	U	49.8		mg/Kg		08/16/21 12:02	08/16/21 22:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*83*		*70 - 130*	*08/16/21 12:02*	*08/16/21 22:15*	*1*
o-Terphenyl	*94*		*70 - 130*	*08/16/21 12:02*	*08/16/21 22:15*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**24.3**		5.01		mg/Kg			08/18/21 19:41	1

Surrogate Summary

Client: WSP USA Inc. Job ID: 890-1108-1
Project/Site: PLU Big Sinks 25 Federal Battery SDG: 31403236.020.0129

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-5041-A-1-E MS	Matrix Spike	112	106
880-5041-A-1-F MSD	Matrix Spike Duplicate	117	101
890-1108-1	SS01	120	100
890-1108-2	SS02	114	88
890-1108-3	SS03	123	93
890-1108-4	SS04	136 S1+	90
LCS 880-6476/1-A	Lab Control Sample	107	106
LCSD 880-6476/2-A	Lab Control Sample Dup	111	107
MB 880-6476/5-A	Method Blank	122	98
MB 880-6596/5-A	Method Blank	101	96

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
880-5111-A-1-E MS	Matrix Spike	74	74
880-5111-A-1-F MSD	Matrix Spike Duplicate	74	74
890-1108-1	SS01	78	86
890-1108-2	SS02	80	90
890-1108-3	SS03	75	76
890-1108-4	SS04	83	94
LCS 880-6609/2-A	Lab Control Sample	93	100
LCSD 880-6609/3-A	Lab Control Sample Dup	88	95
MB 880-6609/1-A	Method Blank	99	112

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: WSP USA Inc.
Project/Site: PLU Big Sinks 25 Federal Battery

Job ID: 890-1108-1
SDG: 31403236.020.0129

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-6476/5-A
Matrix: Solid
Analysis Batch: 6599

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 6476

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/16/21 16:39	08/17/21 00:14	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/16/21 16:39	08/17/21 00:14	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/16/21 16:39	08/17/21 00:14	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/16/21 16:39	08/17/21 00:14	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/16/21 16:39	08/17/21 00:14	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/16/21 16:39	08/17/21 00:14	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		08/16/21 16:39	08/17/21 00:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*122*		*70 - 130*	*08/16/21 16:39*	*08/17/21 00:14*	*1*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*	*08/16/21 16:39*	*08/17/21 00:14*	*1*

Lab Sample ID: LCS 880-6476/1-A
Matrix: Solid
Analysis Batch: 6599

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 6476

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.03564	*-	mg/Kg		36	70 - 130		
Toluene			0.100	0.08815		mg/Kg		88	70 - 130		
Ethylbenzene			0.100	0.08786		mg/Kg		88	70 - 130		
m-Xylene & p-Xylene			0.200	0.1764		mg/Kg		88	70 - 130		
o-Xylene			0.100	0.09019		mg/Kg		90	70 - 130		

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

Lab Sample ID: LCSD 880-6476/2-A
Matrix: Solid
Analysis Batch: 6599

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 6476

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.09517	*1	mg/Kg		95	70 - 130	91	35
Toluene			0.100	0.08807		mg/Kg		88	70 - 130	0	35
Ethylbenzene			0.100	0.08866		mg/Kg		89	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.1802		mg/Kg		90	70 - 130	2	35
o-Xylene			0.100	0.09195		mg/Kg		92	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 880-5041-A-1-E MS
Matrix: Solid
Analysis Batch: 6599

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 6476

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00200	U *- *1	0.101	0.08062		mg/Kg		80	70 - 130		

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc. Job ID: 890-1108-1
Project/Site: PLU Big Sinks 25 Federal Battery SDG: 31403236.020.0129

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

Lab Sample ID: 880-5041-A-1-E MS **Client Sample ID: Matrix Spike**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 6599 **Prep Batch: 6476**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	<0.00200	U	0.101	0.07730		mg/Kg		77	70 - 130
Ethylbenzene	<0.00200	U	0.101	0.07614		mg/Kg		75	70 - 130
m-Xylene & p-Xylene	<0.00399	U	0.202	0.1550		mg/Kg		77	70 - 130
o-Xylene	<0.00200	U	0.101	0.07815		mg/Kg		77	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: 880-5041-A-1-F MSD **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 6599 **Prep Batch: 6476**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U *- *1	0.0996	0.07899		mg/Kg		79	70 - 130	2	35
Toluene	<0.00200	U	0.0996	0.07743		mg/Kg		78	70 - 130	0	35
Ethylbenzene	<0.00200	U	0.0996	0.07670		mg/Kg		77	70 - 130	1	35
m-Xylene & p-Xylene	<0.00399	U	0.199	0.1583		mg/Kg		79	70 - 130	2	35
o-Xylene	<0.00200	U	0.0996	0.08007		mg/Kg		80	70 - 130	2	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: MB 880-6596/5-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 6599 **Prep Batch: 6596**

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/16/21 09:50	08/16/21 13:22	1
Total BTEX	<0.00400	U	0.00400	mg/Kg		08/16/21 09:50	08/16/21 13:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*08/16/21 09:50*	*08/16/21 13:22*	*1*
1,4-Difluorobenzene (Surr)	*96*		*70 - 130*	*08/16/21 09:50*	*08/16/21 13:22*	*1*

QC Sample Results

Client: WSP USA Inc. Job ID: 890-1108-1
Project/Site: PLU Big Sinks 25 Federal Battery SDG: 31403236.020.0129

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

Lab Sample ID: MB 880-6609/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 6610 **Prep Batch: 6609**

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		08/16/21 12:02	08/16/21 14:21	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/16/21 12:02	08/16/21 14:21	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/16/21 12:02	08/16/21 14:21	1
Total TPH	<50.0	U	50.0		mg/Kg		08/16/21 12:02	08/16/21 14:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*99*		*70 - 130*	*08/16/21 12:02*	*08/16/21 14:21*	*1*
o-Terphenyl	*112*		*70 - 130*	*08/16/21 12:02*	*08/16/21 14:21*	*1*

Lab Sample ID: LCS 880-6609/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 6610 **Prep Batch: 6609**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	959.3		mg/Kg		96	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1029		mg/Kg		103	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*93*		*70 - 130*
o-Terphenyl	*100*		*70 - 130*

Lab Sample ID: LCSD 880-6609/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 6610 **Prep Batch: 6609**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	839.5		mg/Kg		84	70 - 130	13	20
Diesel Range Organics (Over C10-C28)			1000	987.4		mg/Kg		99	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*88*		*70 - 130*
o-Terphenyl	*95*		*70 - 130*

Lab Sample ID: 880-5111-A-1-E MS **Client Sample ID: Matrix Spike**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 6610 **Prep Batch: 6609**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1	995	676.7	F1	mg/Kg		68	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	995	793.1		mg/Kg		80	70 - 130		

QC Sample Results

Client: WSP USA Inc. Job ID: 890-1108-1
Project/Site: PLU Big Sinks 25 Federal Battery SDG: 31403236.020.0129

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

Lab Sample ID: 880-5111-A-1-E MS **Client Sample ID: Matrix Spike**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 6610 **Prep Batch: 6609**

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	74		70 - 130
o-Terphenyl	74		70 - 130

Lab Sample ID: 880-5111-A-1-F MSD **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid **Prep Type: Total/NA**
Analysis Batch: 6610 **Prep Batch: 6609**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F1	998	733.7		mg/Kg		74	70 - 130	8	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	792.2		mg/Kg		79	70 - 130	0	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	74		70 - 130
o-Terphenyl	74		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-6602/1-A **Client Sample ID: Method Blank**
Matrix: Solid **Prep Type: Soluble**
Analysis Batch: 6718

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/18/21 10:30	1

Lab Sample ID: LCS 880-6602/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Soluble**
Analysis Batch: 6718

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	254.3		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-6602/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid **Prep Type: Soluble**
Analysis Batch: 6718

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			250	254.6		mg/Kg		102	90 - 110	0	20

Lab Sample ID: 890-1098-A-1-F MS **Client Sample ID: Matrix Spike**
Matrix: Solid **Prep Type: Soluble**
Analysis Batch: 6718

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	64.5		250	308.9		mg/Kg		98	90 - 110		

QC Sample Results

Client: WSP USA Inc. Job ID: 890-1108-1
Project/Site: PLU Big Sinks 25 Federal Battery SDG: 31403236.020.0129

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-1098-A-1-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 6718

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	64.5		250	309.4		mg/Kg		98	90 - 110	0	20

Lab Sample ID: MB 880-6603/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 6755

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/18/21 19:01	1

Lab Sample ID: LCS 880-6603/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 6755

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	252.5		mg/Kg		101	90 - 110		

Lab Sample ID: LCSD 880-6603/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 6755

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			250	255.7		mg/Kg		102	90 - 110	1	20

Lab Sample ID: 890-1108-2 MS — **Client Sample ID: SS02**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 6755

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	24.0		250	268.5		mg/Kg		98	90 - 110		

Lab Sample ID: 890-1108-2 MSD — **Client Sample ID: SS02**
Matrix: Solid — **Prep Type: Soluble**
Analysis Batch: 6755

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	24.0		250	268.7		mg/Kg		98	90 - 110	0	20

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1108-1
Project/Site: PLU Big Sinks 25 Federal Battery SDG: 31403236.020.0129

GC VOA

Prep Batch: 6476

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1108-1	SS01	Total/NA	Solid	5035	
890-1108-2	SS02	Total/NA	Solid	5035	
890-1108-3	SS03	Total/NA	Solid	5035	
890-1108-4	SS04	Total/NA	Solid	5035	
MB 880-6476/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-6476/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-6476/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-5041-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
880-5041-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Prep Batch: 6596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-6596/5-A	Method Blank	Total/NA	Solid	5035	

Analysis Batch: 6599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1108-1	SS01	Total/NA	Solid	8021B	6476
890-1108-2	SS02	Total/NA	Solid	8021B	6476
890-1108-3	SS03	Total/NA	Solid	8021B	6476
890-1108-4	SS04	Total/NA	Solid	8021B	6476
MB 880-6476/5-A	Method Blank	Total/NA	Solid	8021B	6476
MB 880-6596/5-A	Method Blank	Total/NA	Solid	8021B	6596
LCS 880-6476/1-A	Lab Control Sample	Total/NA	Solid	8021B	6476
LCSD 880-6476/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	6476
880-5041-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	6476
880-5041-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	6476

GC Semi VOA

Prep Batch: 6609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1108-1	SS01	Total/NA	Solid	8015NM Prep	
890-1108-2	SS02	Total/NA	Solid	8015NM Prep	
890-1108-3	SS03	Total/NA	Solid	8015NM Prep	
890-1108-4	SS04	Total/NA	Solid	8015NM Prep	
MB 880-6609/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-6609/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-6609/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-5111-A-1-E MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-5111-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 6610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1108-1	SS01	Total/NA	Solid	8015B NM	6609
890-1108-2	SS02	Total/NA	Solid	8015B NM	6609
890-1108-3	SS03	Total/NA	Solid	8015B NM	6609
890-1108-4	SS04	Total/NA	Solid	8015B NM	6609
MB 880-6609/1-A	Method Blank	Total/NA	Solid	8015B NM	6609
LCS 880-6609/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	6609
LCSD 880-6609/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	6609
880-5111-A-1-E MS	Matrix Spike	Total/NA	Solid	8015B NM	6609

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1108-1
Project/Site: PLU Big Sinks 25 Federal Battery SDG: 31403236.020.0129

GC Semi VOA (Continued)

Analysis Batch: 6610 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
880-5111-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	6609

HPLC/IC

Leach Batch: 6602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1108-1	SS01	Soluble	Solid	DI Leach	
MB 880-6602/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6602/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6602/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1098-A-1-F MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1098-A-1-H MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 6603

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1108-2	SS02	Soluble	Solid	DI Leach	
890-1108-3	SS03	Soluble	Solid	DI Leach	
890-1108-4	SS04	Soluble	Solid	DI Leach	
MB 880-6603/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-6603/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-6603/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1108-2 MS	SS02	Soluble	Solid	DI Leach	
890-1108-2 MSD	SS02	Soluble	Solid	DI Leach	

Analysis Batch: 6718

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1108-1	SS01	Soluble	Solid	300.0	6602
MB 880-6602/1-A	Method Blank	Soluble	Solid	300.0	6602
LCS 880-6602/2-A	Lab Control Sample	Soluble	Solid	300.0	6602
LCSD 880-6602/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6602
890-1098-A-1-F MS	Matrix Spike	Soluble	Solid	300.0	6602
890-1098-A-1-H MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	6602

Analysis Batch: 6755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1108-2	SS02	Soluble	Solid	300.0	6603
890-1108-3	SS03	Soluble	Solid	300.0	6603
890-1108-4	SS04	Soluble	Solid	300.0	6603
MB 880-6603/1-A	Method Blank	Soluble	Solid	300.0	6603
LCS 880-6603/2-A	Lab Control Sample	Soluble	Solid	300.0	6603
LCSD 880-6603/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	6603
890-1108-2 MS	SS02	Soluble	Solid	300.0	6603
890-1108-2 MSD	SS02	Soluble	Solid	300.0	6603

Lab Chronicle

Client: WSP USA Inc. Job ID: 890-1108-1
Project/Site: PLU Big Sinks 25 Federal Battery SDG: 31403236.020.0129

Client Sample ID: SS01 Lab Sample ID: 890-1108-1

Date Collected: 08/12/21 11:38 **Matrix: Solid**
Date Received: 08/13/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6476	08/16/21 16:39	KL	XEN MID
Total/NA	Analysis	8021B		1	6599	08/17/21 05:01	KL	XEN MID
Total/NA	Prep	8015NM Prep			6609	08/16/21 12:02	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6610	08/16/21 21:10	AJ	XEN MID
Soluble	Leach	DI Leach			6602	08/16/21 11:10	CH	XEN MID
Soluble	Analysis	300.0		1	6718	08/18/21 12:50	CH	XEN MID

Client Sample ID: SS02 Lab Sample ID: 890-1108-2

Date Collected: 08/12/21 11:40 **Matrix: Solid**
Date Received: 08/13/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6476	08/16/21 16:39	KL	XEN MID
Total/NA	Analysis	8021B		1	6599	08/17/21 05:21	KL	XEN MID
Total/NA	Prep	8015NM Prep			6609	08/16/21 12:02	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6610	08/16/21 21:32	AJ	XEN MID
Soluble	Leach	DI Leach			6603	08/16/21 11:12	CH	XEN MID
Soluble	Analysis	300.0		1	6755	08/18/21 19:18	CH	XEN MID

Client Sample ID: SS03 Lab Sample ID: 890-1108-3

Date Collected: 08/12/21 11:49 **Matrix: Solid**
Date Received: 08/13/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6476	08/16/21 16:39	KL	XEN MID
Total/NA	Analysis	8021B		1	6599	08/17/21 05:41	KL	XEN MID
Total/NA	Prep	8015NM Prep			6609	08/16/21 12:02	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6610	08/16/21 21:54	AJ	XEN MID
Soluble	Leach	DI Leach			6603	08/16/21 11:12	CH	XEN MID
Soluble	Analysis	300.0		1	6755	08/18/21 19:35	CH	XEN MID

Client Sample ID: SS04 Lab Sample ID: 890-1108-4

Date Collected: 08/12/21 11:53 **Matrix: Solid**
Date Received: 08/13/21 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			6476	08/16/21 16:39	KL	XEN MID
Total/NA	Analysis	8021B		1	6599	08/17/21 06:02	KL	XEN MID
Total/NA	Prep	8015NM Prep			6609	08/16/21 12:02	DM	XEN MID
Total/NA	Analysis	8015B NM		1	6610	08/16/21 22:15	AJ	XEN MID
Soluble	Leach	DI Leach			6603	08/16/21 11:12	CH	XEN MID
Soluble	Analysis	300.0		1	6755	08/18/21 19:41	CH	XEN MID

Laboratory References:

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

Eurofins Xenco, Carlsbad

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 890-1108-1
Project/Site: PLU Big Sinks 25 Federal Battery SDG: 31403236.020.0129

Laboratory: Eurofins Xenco, Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-20-21	06-30-22

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
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

Method Summary

Client: WSP USA Inc.
Project/Site: PLU Big Sinks 25 Federal Battery

Job ID: 890-1108-1
SDG: 31403236.020.0129

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
8015NM Prep	Microextraction	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: PLU Big Sinks 25 Federal Battery

Job ID: 890-1108-1
SDG: 31403236.020.0129

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1108-1	SS01	Solid	08/12/21 11:38	08/13/21 09:30	- 0.5
890-1108-2	SS02	Solid	08/12/21 11:40	08/13/21 09:30	- 0.5
890-1108-3	SS03	Solid	08/12/21 11:49	08/13/21 09:30	- 0.5
890-1108-4	SS04	Solid	08/12/21 11:53	08/13/21 09:30	- 0.5

Chain of Custody

XENCO LABORATORIES

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)

Work Order No: _____

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Project Manager:	Tacoma Morrissey	Bill to: (if different)	Kyle Littrell
Company Name:	WSP USA Inc.	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 E Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.236.3849	Email:	luis.delval@wsp.com; tacoma.morrissey@wsp.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ ST/UST ☐ RP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	PLU Big Sinks 25 Federal Battery	Turn Around	
Project Number:	31403236.020.0129	Routine	☒
P.O. Number:	Cost Center: 1139491001	Rush:	
Sampler's Name:	Luis Del Val	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	2.2/2.0	Thermometer ID	TWM-032	
Received Intact:	Yes No			
Cooler Custody Seals:	Yes No N/A	Correction Factor:		
Sample Custody Seals:	Yes (No) N/A	Total Containers:		

890-1108 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SS01	S	8/12/2021	1138	0.5	1	X	X	X
SS02	S	8/12/2021	1140	0.5	1	X	X	X
SS03	S	8/12/2021	1149	0.5	1	X	X	X
SS04	S	8/12/2021	1153	0.5	1	X	X	X

Work Order Notes

AFE: EW.2019.03171.EXP.01
API: 30-015-39018
Incident #: NAB1921742793
2RP-5551

TAT starts the day recevied 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 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 **1631 / 245.1 / 7470 / 7471** : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		8-13-21 0930	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1108-1
SDG Number: 31403236.020.0129

Login Number: 1108
List Number: 1
Creator: Olivas, Nathaniel

List Source: Eurofins Xenco, Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	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	

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1108-1
SDG Number: 31403236.020.0129

Login Number: 1108
List Number: 2
Creator: Copeland, Tatiana

List Source: Eurofins Xenco, Midland
List Creation: 08/16/21 10:34 AM

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

Client Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2683-1
SDG: Eddy County

Client Sample ID: SS01

Date Collected: 07/28/22 09:00
Date Received: 07/28/22 13:50
Sample Depth: 0.2

Lab Sample ID: 890-2683-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		08/02/22 14:31	08/05/22 19:14	1
Toluene	<0.00201	U	0.00201		mg/Kg		08/02/22 14:31	08/05/22 19:14	1
Ethylbenzene	<0.00201	U *1	0.00201		mg/Kg		08/02/22 14:31	08/05/22 19:14	1
m-Xylene & p-Xylene	<0.00402	U *1	0.00402		mg/Kg		08/02/22 14:31	08/05/22 19:14	1
o-Xylene	<0.00201	U *1	0.00201		mg/Kg		08/02/22 14:31	08/05/22 19:14	1
Xylenes, Total	<0.00402	U *1	0.00402		mg/Kg		08/02/22 14:31	08/05/22 19:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*	*08/02/22 14:31*	*08/05/22 19:14*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*08/02/22 14:31*	*08/05/22 19:14*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			08/08/22 14:27	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			08/03/22 11:13	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/02/22 08:40	08/02/22 14:51	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/02/22 08:40	08/02/22 14:51	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/02/22 08:40	08/02/22 14:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*68*	*S1-*	*70 - 130*	*08/02/22 08:40*	*08/02/22 14:51*	*1*
o-Terphenyl	*74*		*70 - 130*	*08/02/22 08:40*	*08/02/22 14:51*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**180**		4.99		mg/Kg			08/04/22 14:32	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2683-1
SDG: Eddy County

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2645-A-1-G MS	Matrix Spike	107	99
890-2645-A-1-H MSD	Matrix Spike Duplicate	102	86
890-2683-1	SS01	117	91
890-2689-A-2-G MS	Matrix Spike	124	98
890-2689-A-2-H MSD	Matrix Spike Duplicate	112	93
LCS 880-31335/1-A	Lab Control Sample	116	100
LCS 880-31573/1-A	Lab Control Sample	106	90
LCSD 880-31335/2-A	Lab Control Sample Dup	106	98
LCSD 880-31573/2-A	Lab Control Sample Dup	112	94
MB 880-31335/5-A	Method Blank	99	89
MB 880-31573/5-A	Method Blank	101	91

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)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2683-1	SS01	68 S1-	74
890-2686-A-1-C MS	Matrix Spike	97	97
890-2686-A-1-D MSD	Matrix Spike Duplicate	84	82
LCS 880-31286/2-A	Lab Control Sample	104	102
LCSD 880-31286/3-A	Lab Control Sample Dup	104	108
MB 880-31286/1-A	Method Blank	90	103

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2683-1
SDG: Eddy County

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-31335/5-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31335

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/02/22 14:31	08/05/22 11:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*08/02/22 14:31*	*08/05/22 11:25*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*08/02/22 14:31*	*08/05/22 11:25*	*1*

Lab Sample ID: LCS 880-31335/1-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31335

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1114		mg/Kg		111	70 - 130		
Toluene			0.100	0.1046		mg/Kg		105	70 - 130		
Ethylbenzene			0.100	0.1239		mg/Kg		124	70 - 130		
m-Xylene & p-Xylene			0.200	0.2398		mg/Kg		120	70 - 130		
o-Xylene			0.100	0.1296		mg/Kg		130	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-31335/2-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31335

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08982		mg/Kg		90	70 - 130	21	35
Toluene			0.100	0.08489		mg/Kg		85	70 - 130	21	35
Ethylbenzene			0.100	0.08074	*1	mg/Kg		81	70 - 130	42	35
m-Xylene & p-Xylene			0.200	0.1641	*1	mg/Kg		82	70 - 130	38	35
o-Xylene			0.100	0.09044	*1	mg/Kg		90	70 - 130	36	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 890-2645-A-1-G MS
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31335

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U F1	0.101	0.1014		mg/Kg		101	70 - 130		
Toluene	<0.00202	U F1	0.101	0.09230		mg/Kg		91	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2683-1
SDG: Eddy County

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

Lab Sample ID: 890-2645-A-1-G MS
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31335

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U *1 F1	0.101	0.08894		mg/Kg		88	70 - 130
m-Xylene & p-Xylene	<0.00403	U *1 F1	0.201	0.1784		mg/Kg		87	70 - 130
o-Xylene	0.00264	*1 F1	0.101	0.09574		mg/Kg		93	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 890-2645-A-1-H MSD
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31335

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
Toluene	<0.00202	U F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
Ethylbenzene	<0.00202	U *1 F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
m-Xylene & p-Xylene	<0.00403	U *1 F1	0.200	<0.00399	U F1	mg/Kg		0	70 - 130	NC	35
o-Xylene	0.00264	*1 F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*

Lab Sample ID: MB 880-31573/5-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31573

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
Toluene	<0.00200	U	0.00200	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
Ethylbenzene	<0.00200	U	0.00200	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
o-Xylene	<0.00200	U	0.00200	mg/Kg		08/05/22 11:19	08/06/22 00:00	1
Xylenes, Total	<0.00400	U	0.00400	mg/Kg		08/05/22 11:19	08/06/22 00:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*08/05/22 11:19*	*08/06/22 00:00*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*08/05/22 11:19*	*08/06/22 00:00*	*1*

Lab Sample ID: LCS 880-31573/1-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31573

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09897		mg/Kg		99	70 - 130
Toluene	0.100	0.1022		mg/Kg		102	70 - 130
Ethylbenzene	0.100	0.1050		mg/Kg		105	70 - 130
m-Xylene & p-Xylene	0.200	0.2137		mg/Kg		107	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2683-1
SDG: Eddy County

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

Lab Sample ID: LCS 880-31573/1-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31573

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.1208		mg/Kg		121	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Lab Sample ID: LCSD 880-31573/2-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31573

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09262		mg/Kg		93	70 - 130	7	35
Toluene			0.100	0.09534		mg/Kg		95	70 - 130	7	35
Ethylbenzene			0.100	0.1047		mg/Kg		105	70 - 130	0	35
m-Xylene & p-Xylene			0.200	0.2146		mg/Kg		107	70 - 130	0	35
o-Xylene			0.100	0.1189		mg/Kg		119	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: 890-2689-A-2-G MS
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31573

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.101	0.09178		mg/Kg		91	70 - 130		
Toluene	<0.00200	U	0.101	0.1004		mg/Kg		100	70 - 130		
Ethylbenzene	<0.00200	U	0.101	0.1071		mg/Kg		107	70 - 130		
m-Xylene & p-Xylene	<0.00399	U	0.201	0.2218		mg/Kg		110	70 - 130		
o-Xylene	<0.00200	U	0.101	0.1258		mg/Kg		125	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 890-2689-A-2-H MSD
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31573

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0998	0.08524		mg/Kg		85	70 - 130	7	35
Toluene	<0.00200	U	0.0998	0.08780		mg/Kg		88	70 - 130	13	35
Ethylbenzene	<0.00200	U	0.0998	0.08996		mg/Kg		90	70 - 130	17	35
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1787		mg/Kg		90	70 - 130	22	35
o-Xylene	<0.00200	U	0.0998	0.1036		mg/Kg		104	70 - 130	19	35

QC Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2683-1
SDG: Eddy County

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

Lab Sample ID: 890-2689-A-2-H MSD
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31573

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	112		70 - 130
1,4-Difluorobenzene (Surr)	93		70 - 130

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

Lab Sample ID: MB 880-31286/1-A
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31286

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		08/02/22 08:40	08/02/22 10:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/02/22 08:40	08/02/22 10:16	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/02/22 08:40	08/02/22 10:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	90		70 - 130	08/02/22 08:40	08/02/22 10:16	1
o-Terphenyl	103		70 - 130	08/02/22 08:40	08/02/22 10:16	1

Lab Sample ID: LCS 880-31286/2-A
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31286

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1060		mg/Kg		106	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1036		mg/Kg		104	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	102		70 - 130

Lab Sample ID: LCSD 880-31286/3-A
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31286

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1063		mg/Kg		106	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	1092		mg/Kg		109	70 - 130	5	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	108		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2683-1
SDG: Eddy County

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

Lab Sample ID: 890-2686-A-1-C MS
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31286

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	941.9		mg/Kg		94	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	999	802.5		mg/Kg		80	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*97*		*70 - 130*
o-Terphenyl	*97*		*70 - 130*

Lab Sample ID: 890-2686-A-1-D MSD
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31286

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	829.1		mg/Kg		83	70 - 130	13	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	700.8		mg/Kg		70	70 - 130	14	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*82*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-31219/1-A
Matrix: Solid
Analysis Batch: 31436

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/04/22 08:50	1

Lab Sample ID: LCS 880-31219/2-A
Matrix: Solid
Analysis Batch: 31436

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			250	266.3		mg/Kg		107	90 - 110

Lab Sample ID: LCSD 880-31219/3-A
Matrix: Solid
Analysis Batch: 31436

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	236.4		mg/Kg		95	90 - 110	12	20

QC Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2683-1
SDG: Eddy County

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-2682-A-6-E MS
Matrix: Solid
Analysis Batch: 31436

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	765	F1	252	1167	F1	mg/Kg		160	90 - 110		

Lab Sample ID: 890-2682-A-6-F MSD
Matrix: Solid
Analysis Batch: 31436

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	765	F1	252	980.9	F1	mg/Kg		86	90 - 110	17	20

QC Association Summary

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2683-1
SDG: Eddy County

GC VOA

Prep Batch: 31335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2683-1	SS01	Total/NA	Solid	5035	
MB 880-31335/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31335/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31335/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2645-A-1-G MS	Matrix Spike	Total/NA	Solid	5035	
890-2645-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 31540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2683-1	SS01	Total/NA	Solid	8021B	31335
MB 880-31335/5-A	Method Blank	Total/NA	Solid	8021B	31335
MB 880-31573/5-A	Method Blank	Total/NA	Solid	8021B	31573
LCS 880-31335/1-A	Lab Control Sample	Total/NA	Solid	8021B	31335
LCS 880-31573/1-A	Lab Control Sample	Total/NA	Solid	8021B	31573
LCSD 880-31335/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31335
LCSD 880-31573/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31573
890-2645-A-1-G MS	Matrix Spike	Total/NA	Solid	8021B	31335
890-2645-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	31335
890-2689-A-2-G MS	Matrix Spike	Total/NA	Solid	8021B	31573
890-2689-A-2-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	31573

Prep Batch: 31573

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-31573/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31573/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31573/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2689-A-2-G MS	Matrix Spike	Total/NA	Solid	5035	
890-2689-A-2-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 31775

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2683-1	SS01	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 31239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2683-1	SS01	Total/NA	Solid	8015B NM	31286
MB 880-31286/1-A	Method Blank	Total/NA	Solid	8015B NM	31286
LCS 880-31286/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	31286
LCSD 880-31286/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	31286
890-2686-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	31286
890-2686-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	31286

Prep Batch: 31286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2683-1	SS01	Total/NA	Solid	8015NM Prep	
MB 880-31286/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-31286/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-31286/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2686-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2683-1
SDG: Eddy County

GC Semi VOA (Continued)

Prep Batch: 31286 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2686-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 31401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2683-1	SS01	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 31219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2683-1	SS01	Soluble	Solid	DI Leach	
MB 880-31219/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-31219/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-31219/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2682-A-6-E MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2682-A-6-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 31436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2683-1	SS01	Soluble	Solid	300.0	31219
MB 880-31219/1-A	Method Blank	Soluble	Solid	300.0	31219
LCS 880-31219/2-A	Lab Control Sample	Soluble	Solid	300.0	31219
LCSD 880-31219/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	31219
890-2682-A-6-E MS	Matrix Spike	Soluble	Solid	300.0	31219
890-2682-A-6-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	31219

Lab Chronicle

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2683-1
SDG: Eddy County

Client Sample ID: SS01

Date Collected: 07/28/22 09:00
Date Received: 07/28/22 13:50

Lab Sample ID: 890-2683-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.97 g	5 mL	31335	08/02/22 14:31	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31540	08/05/22 19:14	MR	EETSC MID
Total/NA	Analysis	Total BTEX		1			31775	08/08/22 14:27	SM	EETSC MID
Total/NA	Analysis	8015 NM		1			31401	08/03/22 11:13	SM	EETSC MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	31286	08/02/22 08:40	DM	EETSC MID
Total/NA	Analysis	8015B NM		1			31239	08/02/22 14:51	SM	EETSC MID
Soluble	Leach	DI Leach			5.01 g	50 mL	31219	08/01/22 16:08	SMC	EETSC MID
Soluble	Analysis	300.0		1			31436	08/04/22 14:32	CH	EETSC MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2683-1
SDG: Eddy County

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2683-1
SDG: Eddy County

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EETSC MID
Total BTEX	Total BTEX Calculation	TAL SOP	EETSC MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EETSC MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EETSC MID
300.0	Anions, Ion Chromatography	MCAWW	EETSC MID
5035	Closed System Purge and Trap	SW846	EETSC MID
8015NM Prep	Microextraction	SW846	EETSC MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EETSC MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2683-1
SDG: Eddy County

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2683-1	SS01	Solid	07/28/22 09:00	07/28/22 13:50	0.2

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Chain of Custody

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

Work Order No: ____________

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Project Manager:	Tacoma Morrissey	Bill to: (if different)	Garrett Green
Company Name:	Ensolum	Company Name:	XTO Energy
Address:	3122 National Parks	Address:	3104 E Greene St
City, State ZIP:	Carlsbad NM 88220	City, State ZIP:	Carlsbad NM 88220
Phone:	337-257-8037	Email:	tmorrissey@ensolum.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	PLU Big Sinks 25
Project Number:	03E1558073
Project Location:	Eddy Co.
Sampler's Name:	CB
PO #:	

Turn Around: ☑ Routine ☐ Rush — Pres. Code
Due Date:
TAT starts the day received by the lab, if received by 4:30pm

SAMPLE RECEIPT	Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No		Thermometer ID:	TNM-007
Cooler Custody Seals:	Yes No (N/A)		Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)		Temperature Reading:	10.6
Total Containers:			Corrected Temperature:	10.4

ANALYSIS REQUEST — Parameters: CHL, BTEX, TPH

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHL	BTEX	TPH	Sample Comments
SS01	S	7-28	~~1005~~ 0900	.2	G	1	/	/	/	Inc ID NAB5192174293
										CC 1081011000

Preservative Codes

None: NO	DI Water: H_2O
Cool: Cool	MeOH: Me
HCL: HC	HNO_3: HN
H_2SO_4: H_2	NaOH: Na
H_3PO_4: HP	
$NaHSO_4$: NABIS	
$Na_2S_2O_3$: $NaSO_3$	
Zn Acetate+NaOH: Zn	
NaOH+Ascorbic Acid: SAPC	

890-2683 Chain of Custody

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_2 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
1 [signature]	[signature]	7-28-22 1350	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2683-1
SDG Number: Eddy County

Login Number: 2683
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	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	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2683-1
SDG Number: Eddy County

Login Number: 2683
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/01/22 08:22 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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ANALYTICAL REPORT

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-2684-1
Laboratory Sample Delivery Group: Eddy County
Client Project/Site: PLU Big Sinks 25

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
8/5/2022 12:33:55 PM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: PLU Big Sinks 25

Laboratory Job ID: 890-2684-1
SDG: Eddy County

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-2684-1
Project/Site: PLU Big Sinks 25 SDG: Eddy County

Qualifiers

GC VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*1	LCS/LCSD RPD exceeds control limits.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
S1-	Surrogate recovery exceeds control limits, low biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low 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/Site: PLU Big Sinks 25

Job ID: 890-2684-1
SDG: Eddy County

Job ID: 890-2684-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2684-1

Receipt
The sample was received on 7/28/2022 1:48 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 10.4°C

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-31414 and analytical batch 880-31453 was outside control limits. Sample matrix interference is suspected.

Method 8021B: Surrogate recovery for the following sample was outside control limits: SS04 (890-2684-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following sample was outside control limits: SS04 (890-2684-1). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-31219 and analytical batch 880-31436 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2684-1
SDG: Eddy County

Client Sample ID: SS04

Date Collected: 07/28/22 09:45
Date Received: 07/28/22 13:48
Sample Depth: 0.2

Lab Sample ID: 890-2684-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U *1	0.00199		mg/Kg		08/03/22 11:41	08/05/22 05:44	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/03/22 11:41	08/05/22 05:44	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		08/03/22 11:41	08/05/22 05:44	1
m-Xylene & p-Xylene	<0.00398	U *-	0.00398		mg/Kg		08/03/22 11:41	08/05/22 05:44	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		08/03/22 11:41	08/05/22 05:44	1
Xylenes, Total	<0.00398	U *-	0.00398		mg/Kg		08/03/22 11:41	08/05/22 05:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*28*	*S1-*	*70 - 130*	*08/03/22 11:41*	*08/05/22 05:44*	*1*
1,4-Difluorobenzene (Surr)	*87*		*70 - 130*	*08/03/22 11:41*	*08/05/22 05:44*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/05/22 13:19	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			08/03/22 11:13	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/02/22 08:40	08/02/22 15:12	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/02/22 08:40	08/02/22 15:12	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/02/22 08:40	08/02/22 15:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*69*	*S1-*	*70 - 130*	*08/02/22 08:40*	*08/02/22 15:12*	*1*
o-Terphenyl	*76*		*70 - 130*	*08/02/22 08:40*	*08/02/22 15:12*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**51.1**		4.99		mg/Kg			08/04/22 15:03	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2684-1
SDG: Eddy County

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)
890-2655-A-1-D MS	Matrix Spike	98	102
890-2655-A-1-E MSD	Matrix Spike Duplicate	111	102
890-2684-1	SS04	28 S1-	87
LCS 880-31414/1-A	Lab Control Sample	80	120
LCSD 880-31414/2-A	Lab Control Sample Dup	81	107
MB 880-31200/5-A	Method Blank	82	106
MB 880-31414/5-A	Method Blank	83	105

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)
890-2684-1	SS04	69 S1-	76
890-2686-A-1-C MS	Matrix Spike	97	97
890-2686-A-1-D MSD	Matrix Spike Duplicate	84	82
LCS 880-31286/2-A	Lab Control Sample	104	102
LCSD 880-31286/3-A	Lab Control Sample Dup	104	108
MB 880-31286/1-A	Method Blank	90	103

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2684-1
SDG: Eddy County

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-31200/5-A
Matrix: Solid
Analysis Batch: 31453

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31200

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/01/22 14:58	08/04/22 10:53	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/01/22 14:58	08/04/22 10:53	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/01/22 14:58	08/04/22 10:53	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/01/22 14:58	08/04/22 10:53	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/01/22 14:58	08/04/22 10:53	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/01/22 14:58	08/04/22 10:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*82*		*70 - 130*	*08/01/22 14:58*	*08/04/22 10:53*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*08/01/22 14:58*	*08/04/22 10:53*	*1*

Lab Sample ID: MB 880-31414/5-A
Matrix: Solid
Analysis Batch: 31453

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31414

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/03/22 11:41	08/04/22 23:07	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/03/22 11:41	08/04/22 23:07	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/03/22 11:41	08/04/22 23:07	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/03/22 11:41	08/04/22 23:07	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/03/22 11:41	08/04/22 23:07	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/03/22 11:41	08/04/22 23:07	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*83*		*70 - 130*	*08/03/22 11:41*	*08/04/22 23:07*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*08/03/22 11:41*	*08/04/22 23:07*	*1*

Lab Sample ID: LCS 880-31414/1-A
Matrix: Solid
Analysis Batch: 31453

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31414

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1214		mg/Kg		121	70 - 130		
Toluene			0.100	0.09865		mg/Kg		99	70 - 130		
Ethylbenzene			0.100	0.09199		mg/Kg		92	70 - 130		
m-Xylene & p-Xylene			0.200	0.07945	*-	mg/Kg		40	70 - 130		
o-Xylene			0.100	0.08730		mg/Kg		87	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*80*		*70 - 130*
1,4-Difluorobenzene (Surr)	*120*		*70 - 130*

Lab Sample ID: LCSD 880-31414/2-A
Matrix: Solid
Analysis Batch: 31453

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31414

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.07448	*1	mg/Kg		74	70 - 130	48	35

QC Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2684-1
SDG: Eddy County

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

Lab Sample ID: LCSD 880-31414/2-A
Matrix: Solid
Analysis Batch: 31453

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31414

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Toluene			0.100	0.07311		mg/Kg		73	70 - 130	30	35
Ethylbenzene			0.100	0.07141		mg/Kg		71	70 - 130	25	35
m-Xylene & p-Xylene			0.200	0.06955	*-	mg/Kg		35	70 - 130	13	35
o-Xylene			0.100	0.07107		mg/Kg		71	70 - 130	21	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

Lab Sample ID: 890-2655-A-1-D MS
Matrix: Solid
Analysis Batch: 31453

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31414

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00200	U *1 F1 F2	0.101	0.05843	F1	mg/Kg		58	70 - 130
Toluene	<0.00200	U F1 F2	0.101	0.05184	F1	mg/Kg		52	70 - 130
Ethylbenzene	<0.00200	U F1 F2	0.101	0.05405	F1	mg/Kg		54	70 - 130
m-Xylene & p-Xylene	<0.00401	U *- F1 F2	0.201	0.1046	F1	mg/Kg		52	70 - 130
o-Xylene	<0.00200	U F1	0.101	0.05325	F1	mg/Kg		53	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: 890-2655-A-1-E MSD
Matrix: Solid
Analysis Batch: 31453

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31414

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U *1 F1 F2	0.0990	0.03449	F1 F2	mg/Kg		35	70 - 130	52	35
Toluene	<0.00200	U F1 F2	0.0990	0.03593	F1 F2	mg/Kg		36	70 - 130	36	35
Ethylbenzene	<0.00200	U F1 F2	0.0990	0.03345	F1 F2	mg/Kg		34	70 - 130	47	35
m-Xylene & p-Xylene	<0.00401	U *- F1 F2	0.198	0.07182	F1 F2	mg/Kg		36	70 - 130	37	35
o-Xylene	<0.00200	U F1	0.0990	0.03786	F1	mg/Kg		38	70 - 130	34	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*111*		*70 - 130*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*

QC Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2684-1
SDG: Eddy County

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

Lab Sample ID: MB 880-31286/1-A
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31286

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		08/02/22 08:40	08/02/22 10:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/02/22 08:40	08/02/22 10:16	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/02/22 08:40	08/02/22 10:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*90*		*70 - 130*	*08/02/22 08:40*	*08/02/22 10:16*	*1*
o-Terphenyl	*103*		*70 - 130*	*08/02/22 08:40*	*08/02/22 10:16*	*1*

Lab Sample ID: LCS 880-31286/2-A
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31286

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1060		mg/Kg		106	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1036		mg/Kg		104	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*104*		*70 - 130*
o-Terphenyl	*102*		*70 - 130*

Lab Sample ID: LCSD 880-31286/3-A
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31286

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1063		mg/Kg		106	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	1092		mg/Kg		109	70 - 130	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*104*		*70 - 130*
o-Terphenyl	*108*		*70 - 130*

Lab Sample ID: 890-2686-A-1-C MS
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31286

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	941.9		mg/Kg		94	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	999	802.5		mg/Kg		80	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2684-1
SDG: Eddy County

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

Lab Sample ID: 890-2686-A-1-C MS
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31286

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*97*		*70 - 130*
o-Terphenyl	*97*		*70 - 130*

Lab Sample ID: 890-2686-A-1-D MSD
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31286

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	829.1		mg/Kg		83	70 - 130	13	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	700.8		mg/Kg		70	70 - 130	14	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*82*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-31219/1-A
Matrix: Solid
Analysis Batch: 31436

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/04/22 08:50	1

Lab Sample ID: LCS 880-31219/2-A
Matrix: Solid
Analysis Batch: 31436

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	266.3		mg/Kg		107	90 - 110		

Lab Sample ID: LCSD 880-31219/3-A
Matrix: Solid
Analysis Batch: 31436

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	236.4		mg/Kg		95	90 - 110	12	20

Lab Sample ID: 890-2682-A-6-E MS
Matrix: Solid
Analysis Batch: 31436

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	765	F1	252	1167	F1	mg/Kg		160	90 - 110		

QC Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2684-1
SDG: Eddy County

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-2682-A-6-F MSD
Matrix: Solid
Analysis Batch: 31436

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	765	F1	252	980.9	F1	mg/Kg		86	90 - 110	17	20

QC Association Summary

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2684-1
SDG: Eddy County

GC VOA

Prep Batch: 31200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-31200/5-A	Method Blank	Total/NA	Solid	5035	

Prep Batch: 31414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2684-1	SS04	Total/NA	Solid	5035	
MB 880-31414/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31414/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31414/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2655-A-1-D MS	Matrix Spike	Total/NA	Solid	5035	
890-2655-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 31453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2684-1	SS04	Total/NA	Solid	8021B	31414
MB 880-31200/5-A	Method Blank	Total/NA	Solid	8021B	31200
MB 880-31414/5-A	Method Blank	Total/NA	Solid	8021B	31414
LCS 880-31414/1-A	Lab Control Sample	Total/NA	Solid	8021B	31414
LCSD 880-31414/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31414
890-2655-A-1-D MS	Matrix Spike	Total/NA	Solid	8021B	31414
890-2655-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	31414

Analysis Batch: 31594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2684-1	SS04	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 31239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2684-1	SS04	Total/NA	Solid	8015B NM	31286
MB 880-31286/1-A	Method Blank	Total/NA	Solid	8015B NM	31286
LCS 880-31286/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	31286
LCSD 880-31286/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	31286
890-2686-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	31286
890-2686-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	31286

Prep Batch: 31286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2684-1	SS04	Total/NA	Solid	8015NM Prep	
MB 880-31286/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-31286/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-31286/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2686-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-2686-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 31402

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2684-1	SS04	Total/NA	Solid	8015 NM	

QC Association Summary

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2684-1
SDG: Eddy County

HPLC/IC

Leach Batch: 31219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2684-1	SS04	Soluble	Solid	DI Leach	
MB 880-31219/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-31219/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-31219/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2682-A-6-E MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2682-A-6-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 31436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2684-1	SS04	Soluble	Solid	300.0	31219
MB 880-31219/1-A	Method Blank	Soluble	Solid	300.0	31219
LCS 880-31219/2-A	Lab Control Sample	Soluble	Solid	300.0	31219
LCSD 880-31219/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	31219
890-2682-A-6-E MS	Matrix Spike	Soluble	Solid	300.0	31219
890-2682-A-6-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	31219

Lab Chronicle

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2684-1
SDG: Eddy County

Client Sample ID: SS04

Date Collected: 07/28/22 09:45
Date Received: 07/28/22 13:48

Lab Sample ID: 890-2684-1

Matrix: Solid

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	31414	08/03/22 11:41	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31453	08/05/22 05:44	MR	EETSC MID
Total/NA	Analysis	Total BTEX		1			31594	08/05/22 13:19	AJ	EETSC MID
Total/NA	Analysis	8015 NM		1			31402	08/03/22 11:13	SM	EETSC MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	31286	08/02/22 08:40	DM	EETSC MID
Total/NA	Analysis	8015B NM		1			31239	08/02/22 15:12	SM	EETSC MID
Soluble	Leach	DI Leach			5.01 g	50 mL	31219	08/01/22 16:08	SMC	EETSC MID
Soluble	Analysis	300.0		1			31436	08/04/22 15:03	CH	EETSC MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2684-1
SDG: Eddy County

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2684-1
SDG: Eddy County

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EETSC MID
Total BTEX	Total BTEX Calculation	TAL SOP	EETSC MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EETSC MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EETSC MID
300.0	Anions, Ion Chromatography	MCAWW	EETSC MID
5035	Closed System Purge and Trap	SW846	EETSC MID
8015NM Prep	Microextraction	SW846	EETSC MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EETSC MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2684-1
SDG: Eddy County

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2684-1	SS04	Solid	07/28/22 09:45	07/28/22 13:48	0.2

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Chain of Custody

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

Work Order No: _____

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Project Manager:	Tacoma Morrissey	Bill to: (if different)	Garrett Green
Company Name:	Ensolum	Company Name:	XTO Energy
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	337-257-8037 Email:		

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Plu Boy Sinks 25	Turn Around	
Project Number:	03E	☐ Routine ☐ Rush	
Project Location:	Eddy County NM	Due Date:	
Sampler's Name:		TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Samples Received Intact:	(Yes) No	Thermometer ID:	TNM-08
Cooler Custody Seals:	Yes No (N/A)	Correction Factor:	-0.2
Sample Custody Seals:	Yes No (N/A)	Temperature Reading:	10.6
Total Containers:		Corrected Temperature:	10.4

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	Parameters: CHL	BTX	TPH
SS04	S	7.28	0945	.2	G	1		✓	✓	✓

890-2684 Chain of Custody

Preservative Codes

None: NO | DI Water: H_2O
Cool: Cool | MeOH: Me
HCL: HC | HNO_3: HN
H_2SO_4: H_2 | NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

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 SiO_2 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
1	Amanda Stef	7/28/22 1348	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2684-1
SDG Number: Eddy County

Login Number: 2684
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	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	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2684-1
SDG Number: Eddy County

Login Number: 2684
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/01/22 08:22 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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ANALYTICAL REPORT

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-2685-1
Laboratory Sample Delivery Group: Eddy County
Client Project/Site: PLU Big Sinks 25

For:
Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Tacoma Morrissey

JKramer

Authorized for release by:
8/8/2022 3:54:46 PM

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

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: PLU Big Sinks 25

Laboratory Job ID: 890-2685-1
SDG: Eddy County

Table of Contents

Definitions/Glossary

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2685-1
SDG: Eddy County

Qualifiers

GC VOA

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
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/Site: PLU Big Sinks 25

Job ID: 890-2685-1
SDG: Eddy County

Job ID: 890-2685-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2685-1

Receipt
The sample was received on 7/28/2022 1:50 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 10.4°C

GC VOA
Method 8021B: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 880-31335 and analytical batch 880-31540 recovered outside control limits for the following analytes: Ethylbenzene, m-Xylene & p-Xylene, o-Xylene and Xylenes, Total.

Method 8021B: Spike compounds were inadvertently omitted during the extraction process for the matrix spike duplicate (MSD); therefore, matrix spike duplicate recoveries are unavailable for preparation batch 880-31335 and analytical batch 880-31540. The associated laboratory control sample (LCS) met acceptance criteria.

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

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

HPLC/IC
Method 300_ORGFM_28D: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for preparation batch 880-31219 and analytical batch 880-31436 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) precision was within acceptance limits.

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

Client Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2685-1
SDG: Eddy County

Client Sample ID: SS02

Date Collected: 07/28/22 09:15
Date Received: 07/28/22 13:50
Sample Depth: 0.2

Lab Sample ID: 890-2685-1

Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		08/02/22 14:31	08/05/22 19:55	1
Toluene	<0.00199	U	0.00199		mg/Kg		08/02/22 14:31	08/05/22 19:55	1
Ethylbenzene	<0.00199	U *1	0.00199		mg/Kg		08/02/22 14:31	08/05/22 19:55	1
m-Xylene & p-Xylene	<0.00398	U *1	0.00398		mg/Kg		08/02/22 14:31	08/05/22 19:55	1
o-Xylene	<0.00199	U *1	0.00199		mg/Kg		08/02/22 14:31	08/05/22 19:55	1
Xylenes, Total	<0.00398	U *1	0.00398		mg/Kg		08/02/22 14:31	08/05/22 19:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*	*08/02/22 14:31*	*08/05/22 19:55*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*08/02/22 14:31*	*08/05/22 19:55*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00398	U	0.00398		mg/Kg			08/08/22 14:27	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			08/03/22 11:13	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		08/02/22 08:40	08/02/22 16:17	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/02/22 08:40	08/02/22 16:17	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/02/22 08:40	08/02/22 16:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*70*		*70 - 130*	*08/02/22 08:40*	*08/02/22 16:17*	*1*
o-Terphenyl	*74*		*70 - 130*	*08/02/22 08:40*	*08/02/22 16:17*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**40.5**		4.96		mg/Kg			08/04/22 15:11	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2685-1
SDG: Eddy County

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2645-A-1-G MS	Matrix Spike	107	99
890-2645-A-1-H MSD	Matrix Spike Duplicate	102	86
890-2685-1	SS02	112	92
890-2689-A-2-G MS	Matrix Spike	124	98
890-2689-A-2-H MSD	Matrix Spike Duplicate	112	93
LCS 880-31335/1-A	Lab Control Sample	116	100
LCS 880-31573/1-A	Lab Control Sample	106	90
LCSD 880-31335/2-A	Lab Control Sample Dup	106	98
LCSD 880-31573/2-A	Lab Control Sample Dup	112	94
MB 880-31335/5-A	Method Blank	99	89
MB 880-31573/5-A	Method Blank	101	91

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)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-2685-1	SS02	70	74
890-2686-A-1-C MS	Matrix Spike	97	97
890-2686-A-1-D MSD	Matrix Spike Duplicate	84	82
LCS 880-31286/2-A	Lab Control Sample	104	102
LCSD 880-31286/3-A	Lab Control Sample Dup	104	108
MB 880-31286/1-A	Method Blank	90	103

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2685-1
SDG: Eddy County

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-31335/5-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31335

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/02/22 14:31	08/05/22 11:25	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/02/22 14:31	08/05/22 11:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*08/02/22 14:31*	*08/05/22 11:25*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*08/02/22 14:31*	*08/05/22 11:25*	*1*

Lab Sample ID: LCS 880-31335/1-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31335

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.1114		mg/Kg		111	70 - 130		
Toluene			0.100	0.1046		mg/Kg		105	70 - 130		
Ethylbenzene			0.100	0.1239		mg/Kg		124	70 - 130		
m-Xylene & p-Xylene			0.200	0.2398		mg/Kg		120	70 - 130		
o-Xylene			0.100	0.1296		mg/Kg		130	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 880-31335/2-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31335

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.08982		mg/Kg		90	70 - 130	21	35
Toluene			0.100	0.08489		mg/Kg		85	70 - 130	21	35
Ethylbenzene			0.100	0.08074	*1	mg/Kg		81	70 - 130	42	35
m-Xylene & p-Xylene			0.200	0.1641	*1	mg/Kg		82	70 - 130	38	35
o-Xylene			0.100	0.09044	*1	mg/Kg		90	70 - 130	36	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 890-2645-A-1-G MS
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31335

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00202	U F1	0.101	0.1014		mg/Kg		101	70 - 130		
Toluene	<0.00202	U F1	0.101	0.09230		mg/Kg		91	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2685-1
SDG: Eddy County

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

Lab Sample ID: 890-2645-A-1-G MS | **Client Sample ID: Matrix Spike**
Matrix: Solid | **Prep Type: Total/NA**
Analysis Batch: 31540 | **Prep Batch: 31335**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00202	U *1 F1	0.101	0.08894		mg/Kg		88	70 - 130
m-Xylene & p-Xylene	<0.00403	U *1 F1	0.201	0.1784		mg/Kg		87	70 - 130
o-Xylene	0.00264	*1 F1	0.101	0.09574		mg/Kg		93	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 890-2645-A-1-H MSD | **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid | **Prep Type: Total/NA**
Analysis Batch: 31540 | **Prep Batch: 31335**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00202	U F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
Toluene	<0.00202	U F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
Ethylbenzene	<0.00202	U *1 F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35
m-Xylene & p-Xylene	<0.00403	U *1 F1	0.200	<0.00399	U F1	mg/Kg		0	70 - 130	NC	35
o-Xylene	0.00264	*1 F1	0.0998	<0.00200	U F1	mg/Kg		0	70 - 130	NC	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*
1,4-Difluorobenzene (Surr)	*86*		*70 - 130*

Lab Sample ID: MB 880-31573/5-A | **Client Sample ID: Method Blank**
Matrix: Solid | **Prep Type: Total/NA**
Analysis Batch: 31540 | **Prep Batch: 31573**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		08/05/22 11:19	08/06/22 00:00	1
Toluene	<0.00200	U	0.00200		mg/Kg		08/05/22 11:19	08/06/22 00:00	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		08/05/22 11:19	08/06/22 00:00	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		08/05/22 11:19	08/06/22 00:00	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		08/05/22 11:19	08/06/22 00:00	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		08/05/22 11:19	08/06/22 00:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*	*08/05/22 11:19*	*08/06/22 00:00*	*1*
1,4-Difluorobenzene (Surr)	*91*		*70 - 130*	*08/05/22 11:19*	*08/06/22 00:00*	*1*

Lab Sample ID: LCS 880-31573/1-A | **Client Sample ID: Lab Control Sample**
Matrix: Solid | **Prep Type: Total/NA**
Analysis Batch: 31540 | **Prep Batch: 31573**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.09897		mg/Kg		99	70 - 130
Toluene	0.100	0.1022		mg/Kg		102	70 - 130
Ethylbenzene	0.100	0.1050		mg/Kg		105	70 - 130
m-Xylene & p-Xylene	0.200	0.2137		mg/Kg		107	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2685-1
SDG: Eddy County

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

Lab Sample ID: LCS 880-31573/1-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31573

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
o-Xylene			0.100	0.1208		mg/Kg		121	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*

Lab Sample ID: LCSD 880-31573/2-A
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31573

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.09262		mg/Kg		93	70 - 130	7	35
Toluene			0.100	0.09534		mg/Kg		95	70 - 130	7	35
Ethylbenzene			0.100	0.1047		mg/Kg		105	70 - 130	0	35
m-Xylene & p-Xylene			0.200	0.2146		mg/Kg		107	70 - 130	0	35
o-Xylene			0.100	0.1189		mg/Kg		119	70 - 130	2	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*70 - 130*
1,4-Difluorobenzene (Surr)	*94*		*70 - 130*

Lab Sample ID: 890-2689-A-2-G MS
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31573

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00200	U	0.101	0.09178		mg/Kg		91	70 - 130		
Toluene	<0.00200	U	0.101	0.1004		mg/Kg		100	70 - 130		
Ethylbenzene	<0.00200	U	0.101	0.1071		mg/Kg		107	70 - 130		
m-Xylene & p-Xylene	<0.00399	U	0.201	0.2218		mg/Kg		110	70 - 130		
o-Xylene	<0.00200	U	0.101	0.1258		mg/Kg		125	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: 890-2689-A-2-H MSD
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31573

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0998	0.08524		mg/Kg		85	70 - 130	7	35
Toluene	<0.00200	U	0.0998	0.08780		mg/Kg		88	70 - 130	13	35
Ethylbenzene	<0.00200	U	0.0998	0.08996		mg/Kg		90	70 - 130	17	35
m-Xylene & p-Xylene	<0.00399	U	0.200	0.1787		mg/Kg		90	70 - 130	22	35
o-Xylene	<0.00200	U	0.0998	0.1036		mg/Kg		104	70 - 130	19	35

QC Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2685-1
SDG: Eddy County

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

Lab Sample ID: 890-2689-A-2-H MSD
Matrix: Solid
Analysis Batch: 31540

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31573

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	112		70 - 130
1,4-Difluorobenzene (Surr)	93		70 - 130

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

Lab Sample ID: MB 880-31286/1-A
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 31286

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		08/02/22 08:40	08/02/22 10:16	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		08/02/22 08:40	08/02/22 10:16	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		08/02/22 08:40	08/02/22 10:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	90		70 - 130	08/02/22 08:40	08/02/22 10:16	1
o-Terphenyl	103		70 - 130	08/02/22 08:40	08/02/22 10:16	1

Lab Sample ID: LCS 880-31286/2-A
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 31286

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1060		mg/Kg		106	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1036		mg/Kg		104	70 - 130		

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	102		70 - 130

Lab Sample ID: LCSD 880-31286/3-A
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 31286

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1063		mg/Kg		106	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	1092		mg/Kg		109	70 - 130	5	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	104		70 - 130
o-Terphenyl	108		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2685-1
SDG: Eddy County

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

Lab Sample ID: 890-2686-A-1-C MS
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 31286

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	941.9		mg/Kg		94	70 - 130
Diesel Range Organics (Over C10-C28)	<49.9	U	999	802.5		mg/Kg		80	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*97*		*70 - 130*
o-Terphenyl	*97*		*70 - 130*

Lab Sample ID: 890-2686-A-1-D MSD
Matrix: Solid
Analysis Batch: 31239

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 31286

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	999	829.1		mg/Kg		83	70 - 130	13	20
Diesel Range Organics (Over C10-C28)	<49.9	U	999	700.8		mg/Kg		70	70 - 130	14	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*84*		*70 - 130*
o-Terphenyl	*82*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-31219/1-A
Matrix: Solid
Analysis Batch: 31436

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			08/04/22 08:50	1

Lab Sample ID: LCS 880-31219/2-A
Matrix: Solid
Analysis Batch: 31436

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride			250	266.3		mg/Kg		107	90 - 110

Lab Sample ID: LCSD 880-31219/3-A
Matrix: Solid
Analysis Batch: 31436

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	236.4		mg/Kg		95	90 - 110	12	20

QC Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2685-1
SDG: Eddy County

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 890-2682-A-6-E MS
Matrix: Solid
Analysis Batch: 31436

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	765	F1	252	1167	F1	mg/Kg		160	90 - 110		

Lab Sample ID: 890-2682-A-6-F MSD
Matrix: Solid
Analysis Batch: 31436

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	765	F1	252	980.9	F1	mg/Kg		86	90 - 110	17	20

QC Association Summary

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2685-1
SDG: Eddy County

GC VOA

Prep Batch: 31335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2685-1	SS02	Total/NA	Solid	5035	
MB 880-31335/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31335/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31335/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2645-A-1-G MS	Matrix Spike	Total/NA	Solid	5035	
890-2645-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 31540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2685-1	SS02	Total/NA	Solid	8021B	31335
MB 880-31335/5-A	Method Blank	Total/NA	Solid	8021B	31335
MB 880-31573/5-A	Method Blank	Total/NA	Solid	8021B	31573
LCS 880-31335/1-A	Lab Control Sample	Total/NA	Solid	8021B	31335
LCS 880-31573/1-A	Lab Control Sample	Total/NA	Solid	8021B	31573
LCSD 880-31335/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31335
LCSD 880-31573/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	31573
890-2645-A-1-G MS	Matrix Spike	Total/NA	Solid	8021B	31335
890-2645-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	31335
890-2689-A-2-G MS	Matrix Spike	Total/NA	Solid	8021B	31573
890-2689-A-2-H MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	31573

Prep Batch: 31573

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-31573/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-31573/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-31573/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2689-A-2-G MS	Matrix Spike	Total/NA	Solid	5035	
890-2689-A-2-H MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 31777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2685-1	SS02	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 31239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2685-1	SS02	Total/NA	Solid	8015B NM	31286
MB 880-31286/1-A	Method Blank	Total/NA	Solid	8015B NM	31286
LCS 880-31286/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	31286
LCSD 880-31286/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	31286
890-2686-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	31286
890-2686-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	31286

Prep Batch: 31286

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2685-1	SS02	Total/NA	Solid	8015NM Prep	
MB 880-31286/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-31286/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-31286/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2686-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2685-1
SDG: Eddy County

GC Semi VOA (Continued)

Prep Batch: 31286 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2686-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 31403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2685-1	SS02	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 31219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2685-1	SS02	Soluble	Solid	DI Leach	
MB 880-31219/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-31219/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-31219/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-2682-A-6-E MS	Matrix Spike	Soluble	Solid	DI Leach	
890-2682-A-6-F MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 31436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2685-1	SS02	Soluble	Solid	300.0	31219
MB 880-31219/1-A	Method Blank	Soluble	Solid	300.0	31219
LCS 880-31219/2-A	Lab Control Sample	Soluble	Solid	300.0	31219
LCSD 880-31219/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	31219
890-2682-A-6-E MS	Matrix Spike	Soluble	Solid	300.0	31219
890-2682-A-6-F MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	31219

Lab Chronicle

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2685-1
SDG: Eddy County

Client Sample ID: SS02

Date Collected: 07/28/22 09:15
Date Received: 07/28/22 13:50

Lab Sample ID: 890-2685-1

Matrix: Solid

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	31335	08/02/22 14:31	MR	EETSC MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	31540	08/05/22 19:55	MR	EETSC MID
Total/NA	Analysis	Total BTEX		1			31777	08/08/22 14:27	SM	EETSC MID
Total/NA	Analysis	8015 NM		1			31403	08/03/22 11:13	SM	EETSC MID
Total/NA	Prep	8015NM Prep			10.00 g	10 mL	31286	08/02/22 08:40	DM	EETSC MID
Total/NA	Analysis	8015B NM		1			31239	08/02/22 16:17	SM	EETSC MID
Soluble	Leach	DI Leach			5.04 g	50 mL	31219	08/01/22 16:08	SMC	EETSC MID
Soluble	Analysis	300.0		1			31436	08/04/22 15:11	CH	EETSC MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2685-1
SDG: Eddy County

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2685-1
SDG: Eddy County

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	EETSC MID
Total BTEX	Total BTEX Calculation	TAL SOP	EETSC MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	EETSC MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	EETSC MID
300.0	Anions, Ion Chromatography	MCAWW	EETSC MID
5035	Closed System Purge and Trap	SW846	EETSC MID
8015NM Prep	Microextraction	SW846	EETSC MID
DI Leach	Deionized Water Leaching Procedure	ASTM	EETSC MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: Ensolum
Project/Site: PLU Big Sinks 25

Job ID: 890-2685-1
SDG: Eddy County

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2685-1	SS02	Solid	07/28/22 09:15	07/28/22 13:50	0.2

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Chain of Custody

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

Work Order No: ______

www.xenco.com Page 1 of 1

Project Manager:	Tacoma Morrissey	Bill to: (if different)	Garrett Green
Company Name:	Ensolum	Company Name:	XTO Energy
Address:		Address:	
City, State ZIP:		City, State ZIP:	
Phone:	337-257-8037	Email:	

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	PLU Big Sinks 25	Turn Around	
Project Number:	03E1558073	☑ Routine	☐ Rush
Project Location:	Eddy Co	Due Date:	
Sampler's Name:	CS	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT	Temp Blank:	Yes No (circled)	Wet Ice:	Yes (circled) No
Samples Received Intact:	Yes (circled) No	Thermometer ID:	NM-007	
Cooler Custody Seals:	Yes No N/A (circled)	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A (circled)	Temperature Reading:	10.6	
Total Containers:		Corrected Temperature:	10.4	

ANALYSIS REQUEST — Parameters: CHL, BTX, TPH

890-2685 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	CHL	BTX	TPH	Sample Comments
SS 02	S	7-28	0945	.2	G	1	✓	✓	✓	

Preservative Codes

None: NO — DI Water: H_2O
Cool: Cool — MeOH: Me
HCL: HC — HNO_3: HN
H_2SO_4: H_2 — NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

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_2 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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 [signature]	[signature]	7-28-22 1350	2		
3			4		
5			6		

Revised Date 08/25/2020 Rev. 2020.2

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2685-1
SDG Number: Eddy County

Login Number: 2685
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	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	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2685-1
SDG Number: Eddy County

Login Number: 2685
List Number: 2
Creator: Rodriguez, Leticia

List Source: Eurofins Midland
List Creation: 08/01/22 08:22 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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ANALYTICAL REPORT

PREPARED FOR

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

Generated 3/6/2023 2:09:59 PM

JOB DESCRIPTION

PLU Big Sinks 25 Battery
SDG NUMBER 03E1558046

JOB NUMBER

890-4227-1

Eurofins Carlsbad
1089 N Canal St.
Carlsbad NM 88220

See page two for job notes and contact information.

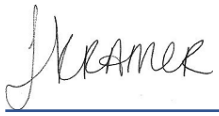
my EOL

Eurofins Carlsbad

Job Notes

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

Authorization



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3/6/2023 2:09:59 PM

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

Client: Ensolum
Project/Site: PLU Big Sinks 25 Battery

Laboratory Job ID: 890-4227-1
SDG: 03E1558046

Table of Contents

Definitions/Glossary

Client: Ensolum Job ID: 890-4227-1
Project/Site: PLU Big Sinks 25 Battery SDG: 03E1558046

Qualifiers

GC VOA

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

GC Semi VOA

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

HPLC/IC

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

Glossary

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

Case Narrative

Client: Ensolum
Project/Site: PLU Big Sinks 25 Battery

Job ID: 890-4227-1
SDG: 03E1558046

Job ID: 890-4227-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-4227-1

Receipt
The sample was received on 3/2/2023 2:03 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 2.2°C

Receipt Exceptions
The following sample was received and analyzed from an unpreserved bulk soil jar: SS05 (890-4227-1).

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

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

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

Client Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25 Battery

Job ID: 890-4227-1
SDG: 03E1558046

Client Sample ID: SS05

Date Collected: 03/02/23 10:50
Date Received: 03/02/23 14:03
Sample Depth: 0.5'

Lab Sample ID: 890-4227-1

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		03/03/23 09:48	03/03/23 16:38	1
Toluene	<0.00198	U	0.00198		mg/Kg		03/03/23 09:48	03/03/23 16:38	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		03/03/23 09:48	03/03/23 16:38	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		03/03/23 09:48	03/03/23 16:38	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		03/03/23 09:48	03/03/23 16:38	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		03/03/23 09:48	03/03/23 16:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*0*	*S1-*	*70 - 130*	*03/03/23 09:48*	*03/03/23 16:38*	*1*
1,4-Difluorobenzene (Surr)	*0*	*S1-*	*70 - 130*	*03/03/23 09:48*	*03/03/23 16:38*	*1*

Method: TAL SOP Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00396	U	0.00396		mg/Kg			03/06/23 14:38	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			03/06/23 14:42	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		03/03/23 09:08	03/03/23 14:43	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/03/23 09:08	03/03/23 14:43	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/03/23 09:08	03/03/23 14:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*03/03/23 09:08*	*03/03/23 14:43*	*1*
o-Terphenyl	*100*		*70 - 130*	*03/03/23 09:08*	*03/03/23 14:43*	*1*

Method: EPA 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**273**		4.96		mg/Kg			03/03/23 16:49	1

Surrogate Summary

Client: Ensolum
Project/Site: PLU Big Sinks 25 Battery

Job ID: 890-4227-1
SDG: 03E1558046

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)											
		BFB1	DFBZ1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-24991-A-11-F MS	Matrix Spike	115	104										
880-24991-A-11-G MSD	Matrix Spike Duplicate	113	111										
890-4227-1	SS05	0 S1-	0 S1-										
LCS 880-47713/1-A	Lab Control Sample	108	121										
LCSD 880-47713/2-A	Lab Control Sample Dup	108	108										
MB 880-47713/5-A	Method Blank	103	106										

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)											
		1CO1	OTPH1										
Lab Sample ID	Client Sample ID	(70-130)	(70-130)										
880-25349-A-1-B MS	Matrix Spike	93	84										
880-25349-A-1-C MSD	Matrix Spike Duplicate	102	88										
890-4227-1	SS05	102	100										
LCS 880-47692/2-A	Lab Control Sample	94	100										
LCSD 880-47692/3-A	Lab Control Sample Dup	113	99										
MB 880-47692/1-A	Method Blank	110	112										

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25 Battery

Job ID: 890-4227-1
SDG: 03E1558046

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-47713/5-A
Matrix: Solid
Analysis Batch: 47723

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 47713

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		03/03/23 09:48	03/03/23 14:40	1
Toluene	<0.00200	U	0.00200		mg/Kg		03/03/23 09:48	03/03/23 14:40	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		03/03/23 09:48	03/03/23 14:40	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		03/03/23 09:48	03/03/23 14:40	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		03/03/23 09:48	03/03/23 14:40	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		03/03/23 09:48	03/03/23 14:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*03/03/23 09:48*	*03/03/23 14:40*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*03/03/23 09:48*	*03/03/23 14:40*	*1*

Lab Sample ID: LCS 880-47713/1-A
Matrix: Solid
Analysis Batch: 47723

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47713

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene			0.100	0.09079		mg/Kg		91	70 - 130		
Toluene			0.100	0.09638		mg/Kg		96	70 - 130		
Ethylbenzene			0.100	0.1029		mg/Kg		103	70 - 130		
m-Xylene & p-Xylene			0.200	0.2158		mg/Kg		108	70 - 130		
o-Xylene			0.100	0.1022		mg/Kg		102	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*121*		*70 - 130*

Lab Sample ID: LCSD 880-47713/2-A
Matrix: Solid
Analysis Batch: 47723

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 47713

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene			0.100	0.1026		mg/Kg		103	70 - 130	12	35
Toluene			0.100	0.1042		mg/Kg		104	70 - 130	8	35
Ethylbenzene			0.100	0.1088		mg/Kg		109	70 - 130	6	35
m-Xylene & p-Xylene			0.200	0.2331		mg/Kg		117	70 - 130	8	35
o-Xylene			0.100	0.1112		mg/Kg		111	70 - 130	8	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: 880-24991-A-11-F MS
Matrix: Solid
Analysis Batch: 47723

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 47713

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Benzene	<0.00201	U	0.100	0.1037		mg/Kg		104	70 - 130		
Toluene	<0.00201	U	0.100	0.1145		mg/Kg		114	70 - 130		

QC Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25 Battery

Job ID: 890-4227-1
SDG: 03E1558046

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

Lab Sample ID: 880-24991-A-11-F MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 47723 — **Prep Batch: 47713**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	<0.00201	U	0.100	0.1208		mg/Kg		121	70 - 130
m-Xylene & p-Xylene	<0.00402	U	0.200	0.2579		mg/Kg		129	70 - 130
o-Xylene	<0.00201	U	0.100	0.1236		mg/Kg		123	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 880-24991-A-11-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 47723 — **Prep Batch: 47713**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U	0.0996	0.1202		mg/Kg		121	70 - 130	15	35
Toluene	<0.00201	U	0.0996	0.1171		mg/Kg		118	70 - 130	2	35
Ethylbenzene	<0.00201	U	0.0996	0.1216		mg/Kg		122	70 - 130	1	35
m-Xylene & p-Xylene	<0.00402	U	0.199	0.2596		mg/Kg		130	70 - 130	1	35
o-Xylene	<0.00201	U	0.0996	0.1245		mg/Kg		125	70 - 130	1	35

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*
1,4-Difluorobenzene (Surr)	*111*		*70 - 130*

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

Lab Sample ID: MB 880-47692/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 47685 — **Prep Batch: 47692**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		03/03/23 08:08	03/03/23 08:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		03/03/23 08:08	03/03/23 08:35	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		03/03/23 08:08	03/03/23 08:35	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*03/03/23 08:08*	*03/03/23 08:35*	*1*
o-Terphenyl	*112*		*70 - 130*	*03/03/23 08:08*	*03/03/23 08:35*	*1*

Lab Sample ID: LCS 880-47692/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 47685 — **Prep Batch: 47692**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10			999	946.6		mg/Kg		95	70 - 130
Diesel Range Organics (Over C10-C28)			999	1029		mg/Kg		103	70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25 Battery

Job ID: 890-4227-1
SDG: 03E1558046

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

Lab Sample ID: LCS 880-47692/2-A
Matrix: Solid
Analysis Batch: 47685

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 47692

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1-Chlorooctane	94		70 - 130
o-Terphenyl	100		70 - 130

Lab Sample ID: LCSD 880-47692/3-A
Matrix: Solid
Analysis Batch: 47685

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 47692

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			999	977.0		mg/Kg		98	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			999	1017		mg/Kg		102	70 - 130	1	20

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1-Chlorooctane	113		70 - 130
o-Terphenyl	99		70 - 130

Lab Sample ID: 880-25349-A-1-B MS
Matrix: Solid
Analysis Batch: 47685

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 47692

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	888.3		mg/Kg		89	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	999	857.5		mg/Kg		84	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	84		70 - 130

Lab Sample ID: 880-25349-A-1-C MSD
Matrix: Solid
Analysis Batch: 47685

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 47692

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	999	1022		mg/Kg		102	70 - 130	14	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	897.5		mg/Kg		88	70 - 130	5	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	102		70 - 130
o-Terphenyl	88		70 - 130

QC Sample Results

Client: Ensolum
Project/Site: PLU Big Sinks 25 Battery

Job ID: 890-4227-1
SDG: 03E1558046

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-47744/1-A
Matrix: Solid
Analysis Batch: 47760

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			03/03/23 15:10	1

Lab Sample ID: LCS 880-47744/2-A
Matrix: Solid
Analysis Batch: 47760

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride			250	230.3		mg/Kg		92	90 - 110		

Lab Sample ID: LCSD 880-47744/3-A
Matrix: Solid
Analysis Batch: 47760

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	230.0		mg/Kg		92	90 - 110	0	20

Lab Sample ID: 890-4225-A-7-B MS
Matrix: Solid
Analysis Batch: 47760

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chloride	65.6		249	305.7		mg/Kg		96	90 - 110		

Lab Sample ID: 890-4225-A-7-C MSD
Matrix: Solid
Analysis Batch: 47760

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	65.6		249	306.3		mg/Kg		97	90 - 110	0	20

QC Association Summary

Client: Ensolum
Project/Site: PLU Big Sinks 25 Battery

Job ID: 890-4227-1
SDG: 03E1558046

GC VOA

Prep Batch: 47713

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4227-1	SS05	Total/NA	Solid	5035	
MB 880-47713/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-47713/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-47713/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
880-24991-A-11-F MS	Matrix Spike	Total/NA	Solid	5035	
880-24991-A-11-G MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 47723

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4227-1	SS05	Total/NA	Solid	8021B	47713
MB 880-47713/5-A	Method Blank	Total/NA	Solid	8021B	47713
LCS 880-47713/1-A	Lab Control Sample	Total/NA	Solid	8021B	47713
LCSD 880-47713/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	47713
880-24991-A-11-F MS	Matrix Spike	Total/NA	Solid	8021B	47713
880-24991-A-11-G MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	47713

Analysis Batch: 47947

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4227-1	SS05	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 47685

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4227-1	SS05	Total/NA	Solid	8015B NM	47692
MB 880-47692/1-A	Method Blank	Total/NA	Solid	8015B NM	47692
LCS 880-47692/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	47692
LCSD 880-47692/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	47692
880-25349-A-1-B MS	Matrix Spike	Total/NA	Solid	8015B NM	47692
880-25349-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	47692

Prep Batch: 47692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4227-1	SS05	Total/NA	Solid	8015NM Prep	
MB 880-47692/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-47692/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-47692/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-25349-A-1-B MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-25349-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 47948

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4227-1	SS05	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 47744

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4227-1	SS05	Soluble	Solid	DI Leach	
MB 880-47744/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-47744/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-47744/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

Client: Ensolum
Project/Site: PLU Big Sinks 25 Battery

Job ID: 890-4227-1
SDG: 03E1558046

HPLC/IC (Continued)

Leach Batch: 47744 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4225-A-7-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-4225-A-7-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 47760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-4227-1	SS05	Soluble	Solid	300.0	47744
MB 880-47744/1-A	Method Blank	Soluble	Solid	300.0	47744
LCS 880-47744/2-A	Lab Control Sample	Soluble	Solid	300.0	47744
LCSD 880-47744/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	47744
890-4225-A-7-B MS	Matrix Spike	Soluble	Solid	300.0	47744
890-4225-A-7-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	47744

Lab Chronicle

Client: Ensolum
Project/Site: PLU Big Sinks 25 Battery

Job ID: 890-4227-1
SDG: 03E1558046

Client Sample ID: SS05

Date Collected: 03/02/23 10:50
Date Received: 03/02/23 14:03

Lab Sample ID: 890-4227-1

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.05 g	5 mL	47713	03/03/23 09:48	MNR	EET MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	47723	03/03/23 16:38	MNR	EET MID
Total/NA	Analysis	Total BTEX		1			47947	03/06/23 14:38	AJ	EET MID
Total/NA	Analysis	8015 NM		1			47948	03/06/23 14:42	AJ	EET MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	47692	03/03/23 09:08	AJ	EET MID
Total/NA	Analysis	8015B NM		1	1 uL	1 uL	47685	03/03/23 14:43	SM	EET MID
Soluble	Leach	DI Leach			5.04 g	50 mL	47744	03/03/23 12:54	SMC	EET MID
Soluble	Analysis	300.0		1	50 mL	50 mL	47760	03/03/23 16:49	CH	EET MID

Laboratory References:

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

Accreditation/Certification Summary

Client: Ensolum
Project/Site: PLU Big Sinks 25 Battery

Job ID: 890-4227-1
SDG: 03E1558046

Laboratory: Eurofins Midland

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

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-25	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: PLU Big Sinks 25 Battery

Job ID: 890-4227-1
SDG: 03E1558046

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: PLU Big Sinks 25 Battery

Job ID: 890-4227-1
SDG: 03E1558046

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-4227-1	SS05	Solid	03/02/23 10:50	03/02/23 14:03	0.5'

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Chain of Custody

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

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Work Order No: _____

Project Manager:	Tacoma Morrissey	Bill to: (if different)	Garret Green
Company Name:	Ensolum	Company Name:	XTO Energy
Address:	3122 National Parks Hwy	Address:	3104 E. Green St.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	303-887-2946	Email:	Garret.Green@ExxonMobil.com

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐
State of Project:
Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	PLU Big Sinks 25 Battery	Turn Around	
Project Number:	03E1558046	☐ Routine ☑ Rush	
Project Location:	32.1819, -103.8329	Due Date:	24hr
Sampler's Name:	Kase Parker	TAT starts the day received by the lab, if received by 4:30pm	
PO #:			

SAMPLE RECEIPT			
Temp Blank:	Yes No	Wet Ice:	Yes No
Samples Received Intact:	Yes No	Thermometer ID:	IR#007
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes No N/A	Temperature Reading:	2.4
Total Containers:		Corrected Temperature:	2.2

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/ Comp	# of Cont	Pres. Code	CHLORIDES (EPA: 300.0)	TPH (8015)	BTEX (8021
SS05	S	3/2/2023	10:50	0.5'	Grab/	1		x	x	x

Parameters

ANALYSIS REQUEST

890-4227 Chain of Custody

Preservative Codes

None: NO DI Water: H_2O
Cool: Cool MeOH: Me
HCL: HC HNO_3: HN
H_2S0_4: H_2 NaOH: Na
H_3PO_4: HP
$NaHSO_4$: NABIS
$Na_2S_2O_3$: $NaSO_3$
Zn Acetate+NaOH: Zn
NaOH+Ascorbic Acid: SAPC

Sample Comments

Incident ID:
NAPP2213148421
Cost Center:
AFE:
tmorrissey@ensolum.com

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO_2 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
1	Cae Clifton	8.2.23 1403	2		
3			4		
5			6		

Revised Date: 08/25/2020 Rev. 2020.2

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Phone 575-988-3199 Fax: 575-988-3199

Chain of Custody Record

eurofins | Environment Testing

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer, Jessica	Carrier Tracking No(s):	COC No: 890-1157 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Jessica.Kramer@et.eurofinsus.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Texas		Job #: 890-4227-1
Address: 1211 W Florida Ave, ,	Due Date Requested: 3/3/2023			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email:	WO #:			
Project Name: PLU Big Sinks 25 Battery	Project #: 89000093			
Site:	SSOW#:			

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep (MOD) Full TPH	8015MOD_Calc	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc (MOD) BTEX	Total_BTEX_GCV	Total Number of containers	Special Instructions/Note.
			Preservation Code:										
SS05 (890-4227-1)	3/2/23	10 50 Mountain		Solid			X	X	X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing South Central LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed the samples must be shipped back to the Eurofins Environment Testing South Central LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing South Central LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing South Central, LLC

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I II III, IV, Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements

Empty Kit Relinquished by	Date	Time	Method of Shipment.		
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time.	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No
Cooler Temperature(s) °C and Other Remarks.	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4227-1
SDG Number: 03E1558046

Login Number: 4227
List Number: 1
Creator: Stutzman, Amanda

List Source: Eurofins Carlsbad

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

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-4227-1
SDG Number: 03E1558046

Login Number: 4227
List Number: 2
Creator: Teel, Brianna

List Source: Eurofins Midland
List Creation: 03/03/23 01:06 PM

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

ENSOLUM

APPENDIX C NMOCD

Notifications

Dan Moir

From: Green, Garrett J <garrett.green@exxonmobil.com>
Sent: Thursday, July 21, 2022 11:57 PM
To: Kalei Jennings; Tacoma Morrissey; Ben Belill; Stuart Hyde
Subject: FW: XTO - Sampling Notification (Week of 7/25/22 - 7/29/22)

[**EXTERNAL EMAIL**]

From: Green, Garrett J
Sent: Thursday, July 21, 2022 3:57 PM
To: 'ocd.enviro@state.nm.us' <ocd.enviro@state.nm.us>; 'Bratcher, Mike, EMNRD' <mike.bratcher@state.nm.us>; 'Hamlet, Robert, EMNRD' <Robert.Hamlet@state.nm.us>
Cc: DelawareSpills /SM <DelawareSpills@exxonmobil.com>
Subject: XTO - Sampling Notification (Week of 7/25/22 - 7/29/22)

All,

XTO plans to complete final sampling activities at the following sites the week of July 25, 2022.

Monday
- PLU Big Sinks 25 CTB/ NAPP2214544127

Tuesday
- PLU Big Sinks 25 CTB/ NAPP2214544127

Wednesday
- PLU C1 Frac Pond / NAPP2207743395

Thursday

Friday
- PLU Big Sinks Fed 25 Battery / NAB1921742793

Thank you,

Garrett Green
Environmental Coordinator
Delaware Business Unit
(575) 200-0729
Garrett.Green@ExxonMobil.com

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

ENSOLUM

APPENDIX E

Boring Logs (2024)

ENSOLUM

	Sample Name: BH01	Date: 12/6/2024
	Site Name: PLU BS 25 Fed Battery	
	Incident Number: 2RP-5551/ NAB1921742793	
	Job Number: 03C1558073	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Josh Boxley	Method: Hand auger
Coordinates: 32.181559, -103.833569	Hole Diameter: 4"	Total Depth: 4'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D	196	0.4	N	BH01	0.5	0	SP	SAND, red brown sand, poorly graded, with some clay. No stain or odor.
						1		
						2		
						3		
D	<162.4	0.00	N	BH01A	4	4		
								Total depth @ 4' bgs.

ENSOLUM

	Sample Name: PH03	Date: 12/6/2024
	Site Name: PLU BS 25 Fed Battery	
	Incident Number: 2RP-5551/ NAB1921742793	
	Job Number: 03C1558073	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Josh Boxley	Method: Trackhoe
Coordinates: 32.181732, -103.833325	Hole Diameter: 4'	Total Depth: 4'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	CALICHE, with sand and silt, pale beige. No stain or odor.
						1		
						2		
						3		
D	162.4	0.8	N	PH03B	4	4		
						Total depth @ 4' bgs.		

ENSOLUM

	Sample Name: PH04	Date: 12/6/2024
	Site Name: PLU BS 25 Fed Battery	
	Incident Number: 2RP-5551/ NAB1921742793	
	Job Number: 03C1558073	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Josh Boxley	Method: Trackhoe
Coordinates: 32.181612, -103.833446	Hole Diameter: 4'	Total Depth: 4'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	CALICHE, with sand and silt, pale beige. No stain or odor.
						1		
						2		
						3		
D	274.4	0.6	N	PH04B	4	4		
						Total depth @ 4' bgs.		

ENSOLUM

	Sample Name: PH05	Date: 12/6/2024
	Site Name: PLU BS 25 Fed Battery	
	Incident Number: 2RP-5551/ NAB1921742793	
	Job Number: 03C1558073	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Josh Boxley	Method: Trackhoe
Coordinates: 32.181607, -103.833372	Hole Diameter: 4'	Total Depth: 4'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0	CCHE	CALICHE, with sand and silt, pale beige. No stain or odor.
						1		
						2		
						3		
D	<162.4	0.8	N	PH05B	4	4		
						Total depth @ 4' bgs.		

ENSOLUM

	Sample Name: PH09	Date: 12/5/2024
	Site Name: PLU BS 25 Fed Battery	
	Incident Number: 2RP-5551/ NAB1921742793	
	Job Number: 03C1558073	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Josh Boxley	Method: Trackhoe
Coordinates: 32.181579, -103.833148	Hole Diameter: 4'	Total Depth: 2'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
						0		
						1		
D	1,478	1.8	N	PH09A	2	2	SP	SAND, red brown sand, little clay and silt. No stain or odor.
						Total depth @ 2' bgs.		Refusal @ 2'

ENSOLUM

	Sample Name: PH10	Date: 12/5/2024
	Site Name: PLU BS 25 Fed Battery	
	Incident Number: 2RP-5551/ NAB1921742793	
	Job Number: 03C1558073	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Josh Boxley	Method: Trackhoe
Coordinates: 32.181926, -103.833202	Hole Diameter: 4'	Total Depth: 4'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D	515.2		N	PH10	0.5	0	CCHE	CALICHE, with sand and silt, pale beige. No stain or odor.
D	576.8	0.5	N	PH10	1	1	SP	SAND, red brown sand with little clay. No stain or odor.
D	576.8	0.6	N	PH10	2	2		
D	274.4	0.6	N	PH10	3	3		
D	235.2	0.7	N	PH10A	4	4		
						Total depth @ 4' bgs.		

ENSOLUM

	Sample Name: PH11	Date: 12/5/2024
	Site Name: PLU BS 25 Fed Battery	
	Incident Number: 2RP-5551/ NAB1921742793	
	Job Number: 03C1558073	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Josh Boxley	Method: Trackhoe
Coordinates: 32.181613, 103.833025	Hole Diameter: 4'	Total Depth: 6'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D	464.8	1.6	N	PH11	0.5	0	CCHE	CALICHE, with some silt, pale beige, poorly graded. No stain or odor.
D	464.8	1.4	N	PH11	1	1	SP	SAND, red brown sand with little clay. No stain or odor.
D	576.8	1.6	N	PH11	2	2		
D	414.4	1.3	N	PH11	3	3		
D	364	2.00	N	PH11A	4	4	CCHE	CALICHE, hard packed with silty sand. No stain or odor.
D	515.2	1.2	N	PH11	5	5		
D	319.2	0.6	N	PH11	6	6		
								Total depth @ 6' bgs.

ENSOLUM	Sample Name: PH12	Date: 12/5/2024
	Site Name: PLU BS 25 Fed Battery	
	Incident Number: 2RP-5551/ NAB1921742793	
	Job Number: 03C1558073	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Josh Boxley	Method: Trackhoe
Coordinates: 32.181863, -103.833282	Hole Diameter: 4'	Total Depth: 4'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D	364	0.5	N	PH12	0.5	0	CCHE	CALICHE, with sand, pale beige. No stain or odor.
D	464.8	0.5	N	PH12	1	1	SP	SAND, red brown sand with clay and some silt. No stain or odor.
D	464.8	0.5	N	PH12	2	2		
D	274.4	0.5	N	PH12	3	3		
D	196	0.6	N	PH12A	4	4		
						Total depth @ 4' bgs.		

ENSOLUM

	Sample Name: PH13	Date: 12/5/2024
	Site Name: PLU BS 25 Fed Battery	
	Incident Number: 2RP-5551/ NAB1921742793	
	Job Number: 03C1558073	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Josh Boxley	Method: Trackhoe
Coordinates: 32.181802, -103.833208	Hole Diameter: 4'	Total Depth: 4'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D	515.2	1.2	N	PH13	0.5	0	CCHE	CALICHE, with sand, pale beige. No stain or odor.
D	515.2	1.4	N	PH13	1	1	SP	SAND, red brown sand with some clay, poorly graded. No stain or odor.
D	414.4	1.4	N	PH13	2	2		
D	274.4	1.8	N	PH13	3	3		
D	319.2	1.3	N	PH13A	4	4	CCHE	CALICHE, pale beige with silt. No stain or odor.
						Total depth @ 4' bgs.		

ENSOLUM	Sample Name: PH14	Date: 12/6/2024
	Site Name: PLU BS 25 Fed Battery	
	Incident Number: 2RP-5551/ NAB1921742793	
	Job Number: 03C1558073	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: Josh Boxley	Method: Trackhoe
Coordinates: 32.181681, -103.833187	Hole Diameter: 4'	Total Depth: 4'

Comments: Field screening conducted with HACH Chloride Test Strips and PID for chloride and vapor, respectively. Chloride test performed with 1:4 dilution factor of soil to distilled water. No correction factors included.

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample ID	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithologic Descriptions
D	515.2	1.4	N	PH14	0.5	0	CCHE	CALICHE, with sand, pale beige. No stain or odor.
						1		
						2		
						3		
D	235.2	0.5	N	PH14A	4	4		
								Total depth @ 4' bgs.

ENSOLUM

APPENDIX F

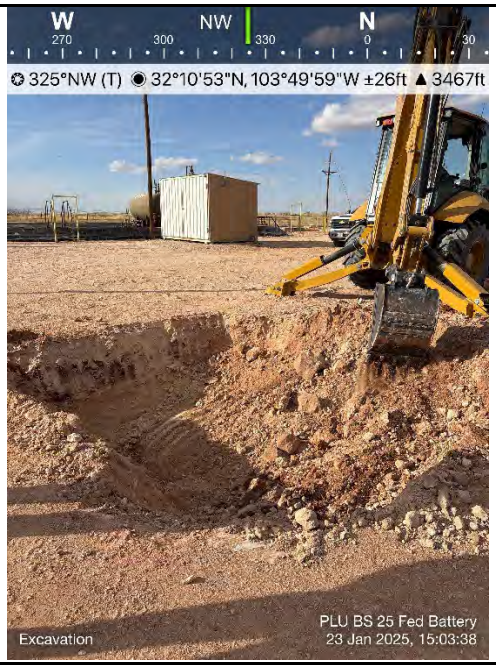
Photographic Log (2024 & 2025)

ENSOLUM

Photographic Log
XTO Energy, Inc
PLU Big Sinks 25 Federal Battery
NAB1921742793

Photograph 1 Date: 12/04/2024
Description: SW01 through SW03 Sample Locations
View: West

Photograph 2 Date: 12/06/2024
Description: BH01 Sample Location
View: Southwest



Photograph 3 Date: 01/23/2025
Description: Excavation activities
View: Northwest

Photograph 4 Date: 02/05/2025
Description: Backfilled excavation
View: South-southeast

ENSOLUM

APPENDIX G

Laboratory Analytical Reports and Chain of Custody Documentation (2024 & 2025)

CARDINAL Laboratories

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

December 09, 2024

TRACY HILLARD

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU BIG SINKS 25 FED BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 12/06/24 16:51.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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.

Cardinal Laboratories is accreditated 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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/06/2024	Sampling Date:	12/06/2024
Reported:	12/09/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.181450, -103.833297		

Sample ID: SW 01 0-4 (H247440-01)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/09/2024	ND	2.23	112	2.00	3.16	
Toluene*	<0.050	0.050	12/09/2024	ND	2.15	107	2.00	3.86	
Ethylbenzene*	<0.050	0.050	12/09/2024	ND	2.17	109	2.00	5.20	
Total Xylenes*	<0.150	0.150	12/09/2024	ND	6.50	108	6.00	5.38	
Total BTEX	<0.300	0.300	12/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.2 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**176**	16.0	12/09/2024	ND	432	108	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	12/09/2024	ND	217	109	200	1.35	
DRO >C10-C28*	<10.0	10.0	12/09/2024	ND	210	105	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	12/09/2024	ND					

Surrogate: 1-Chlorooctane *70.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *67.8 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/06/2024	Sampling Date:	12/06/2024
Reported:	12/09/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.181450, -103.833297		

Sample ID: SW 02 0-4 (H247440-02)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/09/2024	ND	2.23	112	2.00	3.16	
Toluene*	<0.050	0.050	12/09/2024	ND	2.15	107	2.00	3.86	
Ethylbenzene*	<0.050	0.050	12/09/2024	ND	2.17	109	2.00	5.20	
Total Xylenes*	<0.150	0.150	12/09/2024	ND	6.50	108	6.00	5.38	
Total BTEX	<0.300	0.300	12/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.3 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	12/09/2024	ND	432	108	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	12/09/2024	ND	217	109	200	1.35	
DRO >C10-C28*	<10.0	10.0	12/09/2024	ND	210	105	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	12/09/2024	ND					

Surrogate: 1-Chlorooctane *78.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *75.4 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/06/2024	Sampling Date:	12/06/2024
Reported:	12/09/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.181450, -103.833297		

Sample ID: SW 03 0-4 (H247440-03)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/09/2024	ND	2.23	112	2.00	3.16	
Toluene*	<0.050	0.050	12/09/2024	ND	2.15	107	2.00	3.86	
Ethylbenzene*	<0.050	0.050	12/09/2024	ND	2.17	109	2.00	5.20	
Total Xylenes*	<0.150	0.150	12/09/2024	ND	6.50	108	6.00	5.38	
Total BTEX	<0.300	0.300	12/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.2 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**48.0**	16.0	12/09/2024	ND	432	108	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	12/09/2024	ND	217	109	200	1.35	
DRO >C10-C28*	<10.0	10.0	12/09/2024	ND	210	105	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	12/09/2024	ND					

Surrogate: 1-Chlorooctane *76.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *72.4 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/06/2024	Sampling Date:	12/06/2024
Reported:	12/09/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.181450, -103.833297		

Sample ID: BH 01 0.5 (H247440-04)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/09/2024	ND	2.23	112	2.00	3.16	
Toluene*	<0.050	0.050	12/09/2024	ND	2.15	107	2.00	3.86	
Ethylbenzene*	<0.050	0.050	12/09/2024	ND	2.17	109	2.00	5.20	
Total Xylenes*	<0.150	0.150	12/09/2024	ND	6.50	108	6.00	5.38	
Total BTEX	<0.300	0.300	12/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.9 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**96.0**	16.0	12/09/2024	ND	432	108	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	12/09/2024	ND	217	109	200	1.35	
DRO >C10-C28*	<10.0	10.0	12/09/2024	ND	210	105	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	12/09/2024	ND					

Surrogate: 1-Chlorooctane *80.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *77.8 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/06/2024	Sampling Date:	12/06/2024
Reported:	12/09/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.181450, -103.833297		

Sample ID: BH 01A 4' (H247440-05)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/09/2024	ND	2.23	112	2.00	3.16	
Toluene*	<0.050	0.050	12/09/2024	ND	2.15	107	2.00	3.86	
Ethylbenzene*	<0.050	0.050	12/09/2024	ND	2.17	109	2.00	5.20	
Total Xylenes*	<0.150	0.150	12/09/2024	ND	6.50	108	6.00	5.38	
Total BTEX	<0.300	0.300	12/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.7 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**32.0**	16.0	12/09/2024	ND	432	108	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	12/09/2024	ND	217	109	200	1.35	
DRO >C10-C28*	<10.0	10.0	12/09/2024	ND	210	105	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	12/09/2024	ND					

Surrogate: 1-Chlorooctane *77.7 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *75.0 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/06/2024	Sampling Date:	12/06/2024
Reported:	12/09/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.181450, -103.833297		

Sample ID: PH 03B 4 (H247440-06)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/09/2024	ND	2.23	112	2.00	3.16	
Toluene*	<0.050	0.050	12/09/2024	ND	2.15	107	2.00	3.86	
Ethylbenzene*	<0.050	0.050	12/09/2024	ND	2.17	109	2.00	5.20	
Total Xylenes*	<0.150	0.150	12/09/2024	ND	6.50	108	6.00	5.38	
Total BTEX	<0.300	0.300	12/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.6 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**224**	16.0	12/09/2024	ND	432	108	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	12/09/2024	ND	217	109	200	1.35	
DRO >C10-C28*	<10.0	10.0	12/09/2024	ND	210	105	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	12/09/2024	ND					

Surrogate: 1-Chlorooctane *77.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *74.7 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/06/2024	Sampling Date:	12/06/2024
Reported:	12/09/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.181450, -103.833297		

Sample ID: PH 04B 4 (H247440-07)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/09/2024	ND	2.23	112	2.00	3.16	
Toluene*	<0.050	0.050	12/09/2024	ND	2.15	107	2.00	3.86	
Ethylbenzene*	<0.050	0.050	12/09/2024	ND	2.17	109	2.00	5.20	
Total Xylenes*	<0.150	0.150	12/09/2024	ND	6.50	108	6.00	5.38	
Total BTEX	<0.300	0.300	12/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.3 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	12/09/2024	ND	432	108	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	12/09/2024	ND	217	109	200	1.35	
DRO >C10-C28*	<10.0	10.0	12/09/2024	ND	210	105	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	12/09/2024	ND					

Surrogate: 1-Chlorooctane *69.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *69.5 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/06/2024	Sampling Date:	12/06/2024
Reported:	12/09/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.181450, -103.833297		

Sample ID: PH 05B 4 (H247440-08)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/09/2024	ND	2.23	112	2.00	3.16	
Toluene*	<0.050	0.050	12/09/2024	ND	2.15	107	2.00	3.86	
Ethylbenzene*	<0.050	0.050	12/09/2024	ND	2.17	109	2.00	5.20	
Total Xylenes*	<0.150	0.150	12/09/2024	ND	6.50	108	6.00	5.38	
Total BTEX	<0.300	0.300	12/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.0 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	12/09/2024	ND	432	108	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	12/09/2024	ND	217	109	200	1.35	
DRO >C10-C28*	<10.0	10.0	12/09/2024	ND	210	105	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	12/09/2024	ND					

Surrogate: 1-Chlorooctane *76.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *73.2 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/06/2024	Sampling Date:	12/06/2024
Reported:	12/09/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.181450, -103.833297		

Sample ID: PH 14 0.5 (H247440-09)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/09/2024	ND	2.23	112	2.00	3.16	
Toluene*	<0.050	0.050	12/09/2024	ND	2.15	107	2.00	3.86	
Ethylbenzene*	<0.050	0.050	12/09/2024	ND	2.17	109	2.00	5.20	
Total Xylenes*	<0.150	0.150	12/09/2024	ND	6.50	108	6.00	5.38	
Total BTEX	<0.300	0.300	12/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.7 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**192**	16.0	12/09/2024	ND	432	108	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	12/09/2024	ND	217	109	200	1.35	
DRO >C10-C28*	<10.0	10.0	12/09/2024	ND	210	105	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	12/09/2024	ND					

Surrogate: 1-Chlorooctane *74.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *73.3 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/06/2024	Sampling Date:	12/06/2024
Reported:	12/09/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Alyssa Parras
Project Location:	XTO 32.181450, -103.833297		

Sample ID: PH 14A 4 (H247440-10)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/09/2024	ND	2.23	112	2.00	3.16	
Toluene*	<0.050	0.050	12/09/2024	ND	2.15	107	2.00	3.86	
Ethylbenzene*	<0.050	0.050	12/09/2024	ND	2.17	109	2.00	5.20	
Total Xylenes*	<0.150	0.150	12/09/2024	ND	6.50	108	6.00	5.38	
Total BTEX	<0.300	0.300	12/09/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.8 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**64.0**	16.0	12/09/2024	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/09/2024	ND	217	109	200	1.35	
DRO >C10-C28*	<10.0	10.0	12/09/2024	ND	210	105	200	2.04	
EXT DRO >C28-C36	<10.0	10.0	12/09/2024	ND					

Surrogate: 1-Chlorooctane *69.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *68.0 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1 of 1

Company Name: Ensolum, LLC
Project Manager: Katherine Kahn
Address: 3122 National Parks Hwy
City: Carlsbad State: NM Zip: 88220
Phone #: 303 394 9604 Fax #:
Project #: 03C1558OTS Project Owner: XTO
Project Name: PW BIG SINKS 25 Fed Battery
Project Location: 32.181450, -103.833297
Sampler Name: Joshua Boxley

BILL TO

P.O. #:
Company: XTO Energy Inc
Attn: Colton Brown
Address: 3104 E Green St
City: Carlsbad
State: NM Zip: 88220
Phone #:
Fax #:

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	Chlorides	TPH	BTEX
H247440																		
1	SW01	0-4	C	1			X					X		12.6.24	1500	X	X	X
2	SW02	0-4	C	1			X					X		12.6.24	1450	X	X	X
3	~~SW03~~ SW03	0-4	C	1			X					X		12.6.24	1455	X	X	X
4	BH01	0.5	G	1										12.6.24	0930			
5	BH01A	4'	G	1											0950			
6	PH03B	4													1440			
7	PH04B	4													1000			
8	PH05B	4													1030			
9	PH14	0.5													1400			
10	PH14A	4	G	1			X					X		12.6.24	1415	X	X	X

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 the client for the 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 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental 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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By: Date: 12.6.24 Time: 1651 Received By:
Relinquished By: Date: Time: Received By:

Verbal Result: ☐ Yes ☐ No Add'l Phone #:
All Results are emailed. Please provide Email address:
JTB ~~@ensolum.com~~, TMorrissey@ensolum.com, KThomason@ensolum.com
KK@ResolutionConsultantsLLC.com
REMARKS:
Incident: nAB1921742793
Cost Center:

Delivered By: (Circle One) Sampler - UPS - Bus - Other:
Observed Temp. °C 4.0 Corrected Temp. °C 3.4
Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No
CHECKED BY: (Initials) AD
Turnaround Time: 24 hr Standard ☐ Rush ☒
Thermometer ID #113 #140 Correction Factor -0.5°C 4.0
Bacteria (only) Sample Condition Cool: ☐ Yes ☐ No Intact: ☐ Yes ☐ No 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@cardinallabsnm.com

CARDINAL Laboratories

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

December 11, 2024

TRACY HILLARD

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU BIG SINKS 25 FED BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 12/10/24 14:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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.

Cardinal Laboratories is accreditated 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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/05/2024
Reported:	12/11/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: PH 09 0.5 (H247473-01)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/10/2024	ND	2.26	113	2.00	6.91	
Toluene*	<0.050	0.050	12/10/2024	ND	2.16	108	2.00	5.61	
Ethylbenzene*	<0.050	0.050	12/10/2024	ND	2.15	108	2.00	4.27	
Total Xylenes*	<0.150	0.150	12/10/2024	ND	6.44	107	6.00	4.38	
Total BTEX	<0.300	0.300	12/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.2 %* *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	**64.0**	16.0	12/11/2024	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/10/2024	ND	236	118	200	1.40	
DRO >C10-C28*	<10.0	10.0	12/10/2024	ND	233	117	200	0.669	
EXT DRO >C28-C36	<10.0	10.0	12/10/2024	ND					

Surrogate: 1-Chlorooctane *103 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *99.7 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/05/2024
Reported:	12/11/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: PH 09A 2' (H247473-02)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/10/2024	ND	2.26	113	2.00	6.91	
Toluene*	<0.050	0.050	12/10/2024	ND	2.16	108	2.00	5.61	
Ethylbenzene*	<0.050	0.050	12/10/2024	ND	2.15	108	2.00	4.27	
Total Xylenes*	<0.150	0.150	12/10/2024	ND	6.44	107	6.00	4.38	
Total BTEX	<0.300	0.300	12/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *100 %* *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	**176**	16.0	12/11/2024	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/10/2024	ND	236	118	200	1.40	
DRO >C10-C28*	<10.0	10.0	12/10/2024	ND	233	117	200	0.669	
EXT DRO >C28-C36	<10.0	10.0	12/10/2024	ND					

Surrogate: 1-Chlorooctane *107 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *104 %* *49.1-148*

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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/05/2024
Reported:	12/11/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: PH 10 0.5 (H247473-03)

BTEX 8021B mg/kg **Analyzed By: JH**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/10/2024	ND	2.26	113	2.00	6.91	
Toluene*	<0.050	0.050	12/10/2024	ND	2.16	108	2.00	5.61	
Ethylbenzene*	<0.050	0.050	12/10/2024	ND	2.15	108	2.00	4.27	
Total Xylenes*	<0.150	0.150	12/10/2024	ND	6.44	107	6.00	4.38	
Total BTEX	<0.300	0.300	12/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.4 %* *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	**208**	16.0	12/11/2024	ND	400	100	400	3.92	

TPH 8015M mg/kg **Analyzed By: MS**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/10/2024	ND	236	118	200	1.40	
DRO >C10-C28*	<10.0	10.0	12/10/2024	ND	233	117	200	0.669	
EXT DRO >C28-C36	<10.0	10.0	12/10/2024	ND					

Surrogate: 1-Chlorooctane *93.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *88.6 %* *49.1-148*

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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/05/2024
Reported:	12/11/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: PH 10A 4 (H247473-04)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/10/2024	ND	2.26	113	2.00	6.91	
Toluene*	<0.050	0.050	12/10/2024	ND	2.16	108	2.00	5.61	
Ethylbenzene*	<0.050	0.050	12/10/2024	ND	2.15	108	2.00	4.27	
Total Xylenes*	<0.150	0.150	12/10/2024	ND	6.44	107	6.00	4.38	
Total BTEX	<0.300	0.300	12/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.9 %* *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	**224**	16.0	12/11/2024	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/10/2024	ND	236	118	200	1.40	
DRO >C10-C28*	<10.0	10.0	12/10/2024	ND	233	117	200	0.669	
EXT DRO >C28-C36	<10.0	10.0	12/10/2024	ND					

Surrogate: 1-Chlorooctane *103 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *99.2 %* *49.1-148*

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Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/05/2024
Reported:	12/11/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: PH 11 0.5 (H247473-05)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/10/2024	ND	2.26	113	2.00	6.91	
Toluene*	<0.050	0.050	12/10/2024	ND	2.16	108	2.00	5.61	
Ethylbenzene*	<0.050	0.050	12/10/2024	ND	2.15	108	2.00	4.27	
Total Xylenes*	<0.150	0.150	12/10/2024	ND	6.44	107	6.00	4.38	
Total BTEX	<0.300	0.300	12/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.5 %* *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	**336**	16.0	12/11/2024	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/10/2024	ND	236	118	200	1.40	
DRO >C10-C28*	<10.0	10.0	12/10/2024	ND	233	117	200	0.669	
EXT DRO >C28-C36	<10.0	10.0	12/10/2024	ND					

Surrogate: 1-Chlorooctane *92.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *89.0 %* *49.1-148*

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CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/05/2024
Reported:	12/11/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: PH 11A 4 (H247473-06)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/10/2024	ND	2.26	113	2.00	6.91	
Toluene*	<0.050	0.050	12/10/2024	ND	2.16	108	2.00	5.61	
Ethylbenzene*	<0.050	0.050	12/10/2024	ND	2.15	108	2.00	4.27	
Total Xylenes*	<0.150	0.150	12/10/2024	ND	6.44	107	6.00	4.38	
Total BTEX	<0.300	0.300	12/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *100 %* *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	**80.0**	16.0	12/11/2024	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/10/2024	ND	236	118	200	1.40	
DRO >C10-C28*	<10.0	10.0	12/10/2024	ND	233	117	200	0.669	
EXT DRO >C28-C36	<10.0	10.0	12/10/2024	ND					

Surrogate: 1-Chlorooctane *90.5 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *86.8 %* *49.1-148*

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

Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/05/2024
Reported:	12/11/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: PH 12 0.5 (H247473-07)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/10/2024	ND	2.26	113	2.00	6.91	
Toluene*	<0.050	0.050	12/10/2024	ND	2.16	108	2.00	5.61	
Ethylbenzene*	<0.050	0.050	12/10/2024	ND	2.15	108	2.00	4.27	
Total Xylenes*	<0.150	0.150	12/10/2024	ND	6.44	107	6.00	4.38	
Total BTEX	<0.300	0.300	12/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.8 %* *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	**320**	16.0	12/11/2024	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/10/2024	ND	236	118	200	1.40	
DRO >C10-C28*	<10.0	10.0	12/10/2024	ND	233	117	200	0.669	
EXT DRO >C28-C36	<10.0	10.0	12/10/2024	ND					

Surrogate: 1-Chlorooctane *96.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *99.5 %* *49.1-148*

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CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/05/2024
Reported:	12/11/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: PH 12A 4 (H247473-08)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/10/2024	ND	2.26	113	2.00	6.91	
Toluene*	<0.050	0.050	12/10/2024	ND	2.16	108	2.00	5.61	
Ethylbenzene*	<0.050	0.050	12/10/2024	ND	2.15	108	2.00	4.27	
Total Xylenes*	<0.150	0.150	12/10/2024	ND	6.44	107	6.00	4.38	
Total BTEX	<0.300	0.300	12/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.8 %* *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	**176**	16.0	12/11/2024	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/10/2024	ND	236	118	200	1.40	
DRO >C10-C28*	<10.0	10.0	12/10/2024	ND	233	117	200	0.669	
EXT DRO >C28-C36	<10.0	10.0	12/10/2024	ND					

Surrogate: 1-Chlorooctane *105 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *105 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/05/2024
Reported:	12/11/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: PH 13 0.5 (H247473-09)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/10/2024	ND	2.26	113	2.00	6.91	
Toluene*	<0.050	0.050	12/10/2024	ND	2.16	108	2.00	5.61	
Ethylbenzene*	<0.050	0.050	12/10/2024	ND	2.15	108	2.00	4.27	
Total Xylenes*	<0.150	0.150	12/10/2024	ND	6.44	107	6.00	4.38	
Total BTEX	<0.300	0.300	12/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.5 %* *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	**448**	16.0	12/11/2024	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/10/2024	ND	236	118	200	1.40	
DRO >C10-C28*	<10.0	10.0	12/10/2024	ND	233	117	200	0.669	
EXT DRO >C28-C36	<10.0	10.0	12/10/2024	ND					

Surrogate: 1-Chlorooctane *88.7 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *84.1 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

Analytical Results For:

ENSOLUM
TRACY HILLARD
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/05/2024
Reported:	12/11/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: PH 13A 4 (H247473-10)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/10/2024	ND	2.26	113	2.00	6.91	
Toluene*	<0.050	0.050	12/10/2024	ND	2.16	108	2.00	5.61	
Ethylbenzene*	<0.050	0.050	12/10/2024	ND	2.15	108	2.00	4.27	
Total Xylenes*	<0.150	0.150	12/10/2024	ND	6.44	107	6.00	4.38	
Total BTEX	<0.300	0.300	12/10/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.2 %* *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	**64.0**	16.0	12/11/2024	ND	400	100	400	3.92	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/10/2024	ND	236	118	200	1.40	
DRO >C10-C28*	<10.0	10.0	12/10/2024	ND	233	117	200	0.669	
EXT DRO >C28-C36	<10.0	10.0	12/10/2024	ND					

Surrogate: 1-Chlorooctane *104 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *101 %* *49.1-148*

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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, Lab Director/Quality Manager

CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1 of 1 ~~2 of 3~~

Company Name: Ensolum, LLC	**BILL TO**
Project Manager: Katherine Kahn	P.O. #:
Address: 3122 National Parks Hwy	Company: XTO Energy Inc
City: Carlsbad 3033199604 State: NM Zip: 88220	Attn: Colton Brown
Phone #: 303 Fax #:	Address: 3104 E Green St
Project #: 03C1558073 Project Owner: XTO	City: Carlsbad
Project Name: PLU Big Sinks 25 Fed Battery	State: NM Zip: 88220
Project Location: 32.184450, -103.833297	Phone #:
Sampler Name: Joshua Boxley	Fax #:

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	Chlorides	TPH	BTEX
H247473																		
1	PH09	0.5	G	1			X					X		12.5.24	1140	X	X	X
2	PH09A	2'	G	1											1150			
3	PH10	0.5													1205			
4	PH10A	4													1215			
5	PH11	0-5													1220			
6	PH11A	4													1230			
7	PH12	0.5													1230			
8	PH12A	4													1245			
9	PH13	0.5													1250			
10	PH13A	4	G	1			X					X		12.5.24	1256	X	X	X

ANALYSIS REQUEST

Relinquished By:	Date: 12-10-24	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1400		All Results are emailed. Please provide Email address: ~~@ensolum.com~~, TMorrissey@ensolum.com, KThomason@ensolum.com
Relinquished By:	Date:	Received By:	KK@ResolutionConsultants LLC.com
	Time:		REMARKS: Incident: NAB1921742793
			Cost Center:

Delivered By: (Circle One)	Observed Temp. °C 0.3	Sample Condition: Cool ☑ Yes ☐ No / Intact ☑ Yes ☐ No	CHECKED BY: (Initials)	Turnaround Time: Standard ☐ Rush ~~#113~~ #140
Sampler - UPS - Bus - Other:	Corrected Temp. °C -0.3			Thermometer ID Correction Factor -0.5°C

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No / Intact ☐ Yes ☐ No — Observed Temp. °C — Corrected Temp. °C

TO: 12/10/24

FORM-006 R 3.2 10/07/21

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

CARDINAL Laboratories

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

December 16, 2024

KATHERINE KHAN

ENSOLUM

3122 NATIONAL PARKS HWY

CARLSBAD, NM 88220

RE: PLU BIG SINKS 25 FED BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 12/10/24 14:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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.

Cardinal Laboratories is accreditated 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

Celey D. Keene

Lab Director/Quality Manager

CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/04/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 01 0.5 (H247475-01)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2024	ND	2.23	111	2.00	3.51	
Toluene*	<0.050	0.050	12/11/2024	ND	2.12	106	2.00	4.00	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.13	106	2.00	4.46	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.38	106	6.00	5.06	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.8 %* *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	**1090**	16.0	12/11/2024	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	12/11/2024	ND	201	100	200	3.62	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	194	97.2	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *96.5 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *87.6 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/04/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 02 0.5 (H247475-02)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2024	ND	2.23	111	2.00	3.51	
Toluene*	<0.050	0.050	12/11/2024	ND	2.12	106	2.00	4.00	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.13	106	2.00	4.46	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.38	106	6.00	5.06	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.6 %* *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	**1840**	16.0	12/11/2024	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	12/11/2024	ND	201	100	200	3.62	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	194	97.2	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *93.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *83.8 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/04/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 03 0.5 (H247475-03)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2024	ND	2.23	111	2.00	3.51	
Toluene*	<0.050	0.050	12/11/2024	ND	2.12	106	2.00	4.00	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.13	106	2.00	4.46	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.38	106	6.00	5.06	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.6 %* *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	**2160**	16.0	12/11/2024	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	12/11/2024	ND	201	100	200	3.62	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	194	97.2	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *82.4 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *73.1 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/04/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 04 0.5 (H247475-04)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2024	ND	2.23	111	2.00	3.51	
Toluene*	<0.050	0.050	12/11/2024	ND	2.12	106	2.00	4.00	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.13	106	2.00	4.46	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.38	106	6.00	5.06	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.7 %* *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	**2920**	16.0	12/11/2024	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	12/11/2024	ND	201	100	200	3.62	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	194	97.2	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *108 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *95.1 %* *49.1-148*

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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:	12/10/2024	Sampling Date:	12/04/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 05 0.5 (H247475-05)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2024	ND	2.23	111	2.00	3.51	
Toluene*	<0.050	0.050	12/11/2024	ND	2.12	106	2.00	4.00	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.13	106	2.00	4.46	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.38	106	6.00	5.06	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.0 %* *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	**4800**	16.0	12/11/2024	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	12/11/2024	ND	201	100	200	3.62	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	194	97.2	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *108 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *96.4 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/04/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 06 0.5 (H247475-06)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2024	ND	2.23	111	2.00	3.51	
Toluene*	<0.050	0.050	12/11/2024	ND	2.12	106	2.00	4.00	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.13	106	2.00	4.46	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.38	106	6.00	5.06	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.4 %* *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	**3200**	16.0	12/11/2024	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	12/11/2024	ND	201	100	200	3.62	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	194	97.2	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *103 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *96.0 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/04/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 07 0.5 (H247475-07)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2024	ND	2.23	111	2.00	3.51	
Toluene*	<0.050	0.050	12/11/2024	ND	2.12	106	2.00	4.00	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.13	106	2.00	4.46	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.38	106	6.00	5.06	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.7 %* *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	**4800**	16.0	12/11/2024	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	12/11/2024	ND	201	100	200	3.62	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	194	97.2	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *99.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *88.2 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/04/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 08 0.5 (H247475-08)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2024	ND	2.23	111	2.00	3.51	
Toluene*	<0.050	0.050	12/11/2024	ND	2.12	106	2.00	4.00	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.13	106	2.00	4.46	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.38	106	6.00	5.06	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.8 %* *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	**2960**	16.0	12/11/2024	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	12/11/2024	ND	201	100	200	3.62	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	194	97.2	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *92.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *81.6 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/04/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 09 0.5 (H247475-09)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2024	ND	2.23	111	2.00	3.51	
Toluene*	<0.050	0.050	12/11/2024	ND	2.12	106	2.00	4.00	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.13	106	2.00	4.46	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.38	106	6.00	5.06	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.1 %* *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	**3640**	16.0	12/11/2024	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	12/11/2024	ND	201	100	200	3.62	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	194	97.2	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *104 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *91.4 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/04/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 10 0.5 (H247475-10)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2024	ND	2.23	111	2.00	3.51	
Toluene*	<0.050	0.050	12/11/2024	ND	2.12	106	2.00	4.00	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.13	106	2.00	4.46	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.38	106	6.00	5.06	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.7 %* *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	**3880**	16.0	12/11/2024	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	12/11/2024	ND	201	100	200	3.62	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	194	97.2	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *112 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *99.4 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

ENSOLUM
KATHERINE KHAN
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 11 0.5 (H247475-11)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2024	ND	2.23	111	2.00	3.51	
Toluene*	<0.050	0.050	12/11/2024	ND	2.12	106	2.00	4.00	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.13	106	2.00	4.46	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.38	106	6.00	5.06	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.4 %* *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	**3000**	16.0	12/11/2024	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	12/11/2024	ND	201	100	200	3.62	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	194	97.2	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *87.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *80.1 %* *49.1-148*

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Analytical Results For:

ENSOLUM
KATHERINE KHAN
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 12 0.5 (H247475-12)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2024	ND	2.23	111	2.00	3.51	
Toluene*	<0.050	0.050	12/11/2024	ND	2.12	106	2.00	4.00	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.13	106	2.00	4.46	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.38	106	6.00	5.06	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.5 %* *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	**4000**	16.0	12/11/2024	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	12/11/2024	ND	201	100	200	3.62	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	194	97.2	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *90.5 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *79.3 %* *49.1-148*

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Analytical Results For:

ENSOLUM
KATHERINE KHAN
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 13 0.5 (H247475-13)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2024	ND	2.23	111	2.00	3.51	
Toluene*	<0.050	0.050	12/11/2024	ND	2.12	106	2.00	4.00	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.13	106	2.00	4.46	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.38	106	6.00	5.06	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.1 %* *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	**3080**	16.0	12/11/2024	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	12/11/2024	ND	201	100	200	3.62	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	194	97.2	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *94.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *80.9 %* *49.1-148*

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Analytical Results For:

ENSOLUM
KATHERINE KHAN
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 14 0.5 (H247475-14)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2024	ND	2.23	111	2.00	3.51	
Toluene*	<0.050	0.050	12/11/2024	ND	2.12	106	2.00	4.00	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.13	106	2.00	4.46	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.38	106	6.00	5.06	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.1 %* *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	**3360**	16.0	12/11/2024	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	12/11/2024	ND	201	100	200	3.62	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	194	97.2	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *99.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *86.1 %* *49.1-148*

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Analytical Results For:

ENSOLUM
KATHERINE KHAN
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 15 0.5 (H247475-15)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2024	ND	2.23	111	2.00	3.51	
Toluene*	<0.050	0.050	12/11/2024	ND	2.12	106	2.00	4.00	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.13	106	2.00	4.46	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.38	106	6.00	5.06	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.6 %* *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	**4240**	16.0	12/11/2024	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	12/11/2024	ND	201	100	200	3.62	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	194	97.2	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *96.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *84.5 %* *49.1-148*

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Analytical Results For:

ENSOLUM
KATHERINE KHAN
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 16 0.5 (H247475-16)

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	12/11/2024	ND	2.23	111	2.00	3.51	
Toluene*	<0.050	0.050	12/11/2024	ND	2.12	106	2.00	4.00	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.13	106	2.00	4.46	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.38	106	6.00	5.06	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *99.3 %* *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	**3520**	16.0	12/11/2024	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	12/11/2024	ND	201	100	200	3.62	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	194	97.2	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *94.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *82.8 %* *49.1-148*

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Analytical Results For:

ENSOLUM
KATHERINE KHAN
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 17 0.5 (H247475-17)

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	12/11/2024	ND	2.23	111	2.00	3.51	
Toluene*	<0.050	0.050	12/11/2024	ND	2.12	106	2.00	4.00	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.13	106	2.00	4.46	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.38	106	6.00	5.06	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *97.7 %* *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	**3480**	16.0	12/11/2024	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	12/11/2024	ND	201	100	200	3.62	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	194	97.2	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *97.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *86.0 %* *49.1-148*

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Celey D. Keene

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:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 18 0.5 (H247475-18)

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	12/11/2024	ND	2.23	111	2.00	3.51	
Toluene*	<0.050	0.050	12/11/2024	ND	2.12	106	2.00	4.00	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.13	106	2.00	4.46	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.38	106	6.00	5.06	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.9 %* *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	**576**	16.0	12/11/2024	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	12/11/2024	ND	201	100	200	3.62	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	194	97.2	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *97.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *84.2 %* *49.1-148*

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Analytical Results For:

ENSOLUM
KATHERINE KHAN
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 19 0.5 (H247475-19)

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	12/11/2024	ND	2.23	111	2.00	3.51	
Toluene*	<0.050	0.050	12/11/2024	ND	2.12	106	2.00	4.00	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.13	106	2.00	4.46	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.38	106	6.00	5.06	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.4 %* *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	**4160**	16.0	12/11/2024	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	12/11/2024	ND	201	100	200	3.62	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	194	97.2	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *98.7 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *87.1 %* *49.1-148*

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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:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 20 0.5 (H247475-20)

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	12/11/2024	ND	2.23	111	2.00	3.51	
Toluene*	<0.050	0.050	12/11/2024	ND	2.12	106	2.00	4.00	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.13	106	2.00	4.46	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.38	106	6.00	5.06	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.6 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**960**	16.0	12/11/2024	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2024	ND	201	100	200	3.62	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	194	97.2	200	4.04	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *102 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *89.2 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 21 0.5 (H247475-21)

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	12/11/2024	ND	2.21	111	2.00	4.59	
Toluene*	<0.050	0.050	12/11/2024	ND	2.24	112	2.00	2.62	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.16	108	2.00	1.96	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.78	113	6.00	2.51	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1620**	16.0	12/11/2024	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2024	ND	210	105	200	1.87	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	191	95.4	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *79.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *88.3 %* *49.1-148*

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CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 22 0.5 (H247475-22)

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	12/11/2024	ND	2.21	111	2.00	4.59	
Toluene*	<0.050	0.050	12/11/2024	ND	2.24	112	2.00	2.62	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.16	108	2.00	1.96	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.78	113	6.00	2.51	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *103 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1250**	16.0	12/11/2024	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2024	ND	210	105	200	1.87	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	191	95.4	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *69.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *76.4 %* *49.1-148*

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CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 23 0.5 (H247475-23)

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	12/11/2024	ND	2.21	111	2.00	4.59	
Toluene*	<0.050	0.050	12/11/2024	ND	2.24	112	2.00	2.62	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.16	108	2.00	1.96	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.78	113	6.00	2.51	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**768**	16.0	12/11/2024	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2024	ND	210	105	200	1.87	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	191	95.4	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *84.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *93.4 %* *49.1-148*

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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:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 24 0.5 (H247475-24)

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	12/11/2024	ND	2.21	111	2.00	4.59	
Toluene*	<0.050	0.050	12/11/2024	ND	2.24	112	2.00	2.62	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.16	108	2.00	1.96	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.78	113	6.00	2.51	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**896**	16.0	12/11/2024	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2024	ND	210	105	200	1.87	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	191	95.4	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *80.7 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *90.9 %* *49.1-148*

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Analytical Results For:

ENSOLUM
KATHERINE KHAN
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 25 0.5 (H247475-25)

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	12/11/2024	ND	2.21	111	2.00	4.59	
Toluene*	<0.050	0.050	12/11/2024	ND	2.24	112	2.00	2.62	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.16	108	2.00	1.96	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.78	113	6.00	2.51	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *104 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3600**	16.0	12/11/2024	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2024	ND	210	105	200	1.87	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	191	95.4	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *72.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *81.1 %* *49.1-148*

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Analytical Results For:

ENSOLUM
KATHERINE KHAN
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 26 0.5 (H247475-26)

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	12/11/2024	ND	2.21	111	2.00	4.59	
Toluene*	<0.050	0.050	12/11/2024	ND	2.24	112	2.00	2.62	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.16	108	2.00	1.96	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.78	113	6.00	2.51	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**832**	16.0	12/11/2024	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2024	ND	210	105	200	1.87	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	191	95.4	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *75.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *86.0 %* *49.1-148*

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CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 27 0.5 (H247475-27)

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	12/11/2024	ND	2.21	111	2.00	4.59	
Toluene*	<0.050	0.050	12/11/2024	ND	2.24	112	2.00	2.62	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.16	108	2.00	1.96	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.78	113	6.00	2.51	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *103 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**992**	16.0	12/11/2024	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2024	ND	210	105	200	1.87	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	191	95.4	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *77.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *90.1 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 28 0.5 (H247475-28)

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	12/11/2024	ND	2.21	111	2.00	4.59	
Toluene*	<0.050	0.050	12/11/2024	ND	2.24	112	2.00	2.62	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.16	108	2.00	1.96	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.78	113	6.00	2.51	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1020**	16.0	12/11/2024	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2024	ND	210	105	200	1.87	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	191	95.4	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *84.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *94.6 %* *49.1-148*

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Celey D. Keene

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

ENSOLUM
KATHERINE KHAN
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 29 0.5 (H247475-29)

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	12/11/2024	ND	2.21	111	2.00	4.59	
Toluene*	<0.050	0.050	12/11/2024	ND	2.24	112	2.00	2.62	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.16	108	2.00	1.96	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.78	113	6.00	2.51	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**912**	16.0	12/11/2024	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2024	ND	210	105	200	1.87	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	191	95.4	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *82.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *91.4 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 30 0.5 (H247475-30)

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	12/11/2024	ND	2.21	111	2.00	4.59	
Toluene*	<0.050	0.050	12/11/2024	ND	2.24	112	2.00	2.62	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.16	108	2.00	1.96	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.78	113	6.00	2.51	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3080**	16.0	12/11/2024	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2024	ND	210	105	200	1.87	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	191	95.4	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *74.5 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *82.1 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 31 0.5 (H247475-31)

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	12/11/2024	ND	2.21	111	2.00	4.59	
Toluene*	<0.050	0.050	12/11/2024	ND	2.24	112	2.00	2.62	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.16	108	2.00	1.96	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.78	113	6.00	2.51	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1710**	16.0	12/11/2024	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2024	ND	210	105	200	1.87	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	191	95.4	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *80.5 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *88.7 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 32 0.5 (H247475-32)

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	12/11/2024	ND	2.21	111	2.00	4.59	
Toluene*	<0.050	0.050	12/11/2024	ND	2.24	112	2.00	2.62	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.16	108	2.00	1.96	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.78	113	6.00	2.51	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**608**	16.0	12/11/2024	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2024	ND	210	105	200	1.87	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	191	95.4	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *85.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *93.6 %* *49.1-148*

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CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 33 0.5 (H247475-33)

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	12/11/2024	ND	2.21	111	2.00	4.59	
Toluene*	<0.050	0.050	12/11/2024	ND	2.24	112	2.00	2.62	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.16	108	2.00	1.96	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.78	113	6.00	2.51	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *100 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**400**	16.0	12/11/2024	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2024	ND	210	105	200	1.87	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	191	95.4	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *80.6 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *90.1 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 34 0.5 (H247475-34)

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	12/11/2024	ND	2.21	111	2.00	4.59	
Toluene*	<0.050	0.050	12/11/2024	ND	2.24	112	2.00	2.62	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.16	108	2.00	1.96	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.78	113	6.00	2.51	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *103 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3200**	16.0	12/11/2024	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2024	ND	210	105	200	1.87	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	191	95.4	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *78.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *86.5 %* *49.1-148*

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Analytical Results For:

ENSOLUM
KATHERINE KHAN
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 35 0.5 (H247475-35)

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	12/11/2024	ND	2.21	111	2.00	4.59	
Toluene*	<0.050	0.050	12/11/2024	ND	2.24	112	2.00	2.62	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.16	108	2.00	1.96	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.78	113	6.00	2.51	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3760**	16.0	12/11/2024	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2024	ND	210	105	200	1.87	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	191	95.4	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *78.2 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *86.9 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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Analytical Results For:

ENSOLUM
KATHERINE KHAN
3122 NATIONAL PARKS HWY
CARLSBAD NM, 88220
Fax To:

Received:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 36 0.5 (H247475-36)

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	12/11/2024	ND	2.21	111	2.00	4.59	
Toluene*	<0.050	0.050	12/11/2024	ND	2.24	112	2.00	2.62	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.16	108	2.00	1.96	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.78	113	6.00	2.51	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *103 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**4960**	16.0	12/11/2024	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2024	ND	210	105	200	1.87	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	191	95.4	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *81.7 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *90.0 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 37 0.5 (H247475-37)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2024	ND	2.21	111	2.00	4.59	
Toluene*	<0.050	0.050	12/11/2024	ND	2.24	112	2.00	2.62	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.16	108	2.00	1.96	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.78	113	6.00	2.51	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *102 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3000**	16.0	12/11/2024	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2024	ND	210	105	200	1.87	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	191	95.4	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *85.9 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *94.7 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 38 0.5 (H247475-38)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2024	ND	2.21	111	2.00	4.59	
Toluene*	<0.050	0.050	12/11/2024	ND	2.24	112	2.00	2.62	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.16	108	2.00	1.96	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.78	113	6.00	2.51	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *103 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3240**	16.0	12/11/2024	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2024	ND	210	105	200	1.87	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	191	95.4	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *96.5 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *106 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 39 0.5 (H247475-39)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2024	ND	2.21	111	2.00	4.59	
Toluene*	<0.050	0.050	12/11/2024	ND	2.24	112	2.00	2.62	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.16	108	2.00	1.96	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.78	113	6.00	2.51	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *100 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: CT

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3040**	16.0	12/11/2024	ND	432	108	400	3.77	

TPH 8015M mg/kg Analyzed By: MS

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	12/11/2024	ND	210	105	200	1.87	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	191	95.4	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *86.8 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *94.8 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/09/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: CS 40 0.5 (H247475-40)

BTEX 8021B mg/kg Analyzed By: JH

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2024	ND	2.21	111	2.00	4.59	
Toluene*	<0.050	0.050	12/11/2024	ND	2.24	112	2.00	2.62	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.16	108	2.00	1.96	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.78	113	6.00	2.51	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *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	**64.0**	16.0	12/11/2024	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	12/11/2024	ND	210	105	200	1.87	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	191	95.4	200	3.53	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *89.1 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *97.7 %* *49.1-148*

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Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/05/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: PH 07 B 4 (H247475-41)

BTEX 8021B mg/kg **Analyzed By: JH**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2024	ND	2.05	102	2.00	3.26	QM-07
Toluene*	<0.050	0.050	12/11/2024	ND	2.03	102	2.00	3.56	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.03	102	2.00	4.04	QM-07
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.11	102	6.00	4.57	QM-07
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *98.8 %* *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	**48.0**	16.0	12/11/2024	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	12/11/2024	ND	201	101	200	1.59	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	188	93.8	200	0.492	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *87.0 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *89.6 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	12/10/2024	Sampling Date:	12/05/2024
Reported:	12/16/2024	Sampling Type:	Soil
Project Name:	PLU BIG SINKS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Tamara Oldaker
Project Location:	XTO 32.181450, -103.833297		

Sample ID: PH 08 B 4 (H247475-42)

BTEX 8021B mg/kg **Analyzed By: JH**

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	12/11/2024	ND	2.05	102	2.00	3.26	
Toluene*	<0.050	0.050	12/11/2024	ND	2.03	102	2.00	3.56	
Ethylbenzene*	<0.050	0.050	12/11/2024	ND	2.03	102	2.00	4.04	
Total Xylenes*	<0.150	0.150	12/11/2024	ND	6.11	102	6.00	4.57	
Total BTEX	<0.300	0.300	12/11/2024	ND					

Surrogate: 4-Bromofluorobenzene (PID *101 %* *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	**64.0**	16.0	12/11/2024	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	12/11/2024	ND	201	101	200	1.59	
DRO >C10-C28*	<10.0	10.0	12/11/2024	ND	188	93.8	200	0.492	
EXT DRO >C28-C36	<10.0	10.0	12/11/2024	ND					

Surrogate: 1-Chlorooctane *86.3 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *89.1 %* *49.1-148*

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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, Lab Director/Quality Manager

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1 of 5

Company Name: Ensolum, LLC		**BILL TO**	
Project Manager: Katherine Kahn		P.O. #:	
Address: 3122 National Parks Hwy		Company: XTO Energy Inc	
City: Carlsbad	State: NM Zip: 88220	Attn: Colton Brown	
Phone #: 303 319 9604	Fax #:	Address: 3104 E Green St	
Project #: 03C1558073	Project Owner: XTO	City: Carlsbad	
Project Name: PLU Big Sinks 25 Fed Battery		State: NM Zip: 88220	
Project Location: 32.781450, -103.833297		Phone #:	
Sampler Name: Joshua Boxley		Fax #:	

FOR LAB USE ONLY					MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST											
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chlorides	TPH	BTEX										
H217475																											
1	CS01	0.5	C	1			X					X		12.9.24	1200	X	X	X									
2	CS02														1215												
3	CS03														1225												
4	CS04														1240												
5	CS05														1250												
6	CS06														1310												
7	CS07														1300												
8	CS08														1215												
9	CS09														1200												
10	CS10	0.5	C	1			X					X		12.9.24	1145	X	X	X									

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Relinquished By:	Date: 12-10-24 Time: 1400	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	All Results are emailed. Please provide Email address: @ensolum.com, TMorrissey@ensolum.com, KThomason@ensolum.com KK@ResolutionConsultants...com
			REMARKS: Incident: NAB1921742793 Cost Center:

Delivered By: (Circle One)	Observed Temp. °C 0.3	Sample Condition Cool Intact	CHECKED BY: (Initials)	Turnaround Time: Standard ☒ Rush ☐	Bacteria (only) Sample Condition Cool Intact Observed Temp. °C
Sampler - UPS - Bus - Other:	Corrected Temp. °C -0.3	☑ Yes ☑ Yes ☐ No ☐ No		Thermometer ID #113 Correction Factor -0.5°C	☐ Yes ☐ Yes ☐ No ☐ No Corrected Temp. °C

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2 of 5

Company Name: Ensolum, LLC	**BILL TO**
Project Manager: Katherine Kahn	P.O. #:
Address: 3122 National Parks Hwy	Company: XTO Energy Inc
City: Carlsbad State: NM Zip: 88220	Attn: Colton Brown
Phone #: 303 319 9604 Fax #:	Address: 3104 E Green St
Project #: 03C1558073 Project Owner: XTO	City: Carlsbad
Project Name: PLU Big Sinks 25 Fed Battery	State: NM Zip: 88220
Project Location: 32.781450, -103.833297	Phone #:
Sampler Name: Joshua Boxley	Fax #:

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	ANALYSIS REQUEST: Chlorides	TPH	BTEX
H247475																		
11	CS11	0.5	C	1			X					X		12.9.24	0955	X	X	X
12	CS12														0959			
13	CS13														1002			
14	CS14														1005			
15	CS15														1020			
16	CS16														1025			
17	CS17														1027			
18	CS18														1030			
19	CS19														1035			
20	CS20	0.5	C	1			X					X		12.9.24	1405	X	X	X

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Relinquished By:	Date: 12-10-24	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1400		All Results are emailed. Please provide Email address:
Relinquished By:	Date:	Received By:	@ensolum.com, TMorrissey@ensolum.com, KThomason@ensolum.com
	Time:		KK@ResolutionConsultantsLLC.com
Delivered By: (Circle One)	Observed Temp. °C 0.3	Sample Condition: Cool ☑ Yes ☐ No, Intact ☑ Yes ☐ No	CHECKED BY: (Initials)
Sampler - UPS - Bus - Other:	Corrected Temp. °C 0.3		

REMARKS: Incident: NAB1921742793
Cost Center:

Turnaround Time: Standard ☑ Rush ☐ 5 day
Thermometer ID #113 #140
Correction Factor -0.5°C to 12/10/24

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No, Intact ☐ Yes ☐ No
Observed Temp. °C
Corrected Temp. °C

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

3 of 5

Company Name: Ensolum, LLC	**BILL TO**
Project Manager: Katherine Kahn	P.O. #:
Address: 3122 National Parks Hwy	Company: XTO Energy Inc
City: Carlsbad State: NM Zip: 88220	Attn: Colton Brown
Phone #: 303 319 9604 Fax #:	Address: 3104 E Green St
Project #: 03C1558073 Project Owner: XTO	City: Carlsbad
Project Name: PLU Big Sinks 25 Fed Battery	State: NM Zip: 88220
Project Location: 32.781450, -103.833297	Phone #:
Sampler Name: Joshua Boxley	Fax #:

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	ANALYSIS REQUEST: Chlorides	TPH	BTEX
H247475																		
21	CS21	0.5	C	1			X					X		12.9.24	1420	X	X	X
22	CS22														1410			
23	CS23														1330			
24	CS24														1325			
25	CS25														1320			
26	CS26														1315			
27	CS27														1310			
28	CS28														1240			
29	CS29														1245			
30	CS30	0.5	C	1			X					X		12.9.24	1255	X	X	X

Relinquished By:	Date: 12-10-24 Time: 1400	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By:	All Results are emailed. Please provide Email address: @ensolum.com, TMorrissey@ensolum.com, KThomason@ensolum.com KKG@ResolutionConsultantsLLC.com
			REMARKS: Incident: NAB1921742793 Cost Center:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 0.3 Corrected Temp. °C 0.3	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials)

Turnaround Time: Standard ☑ Rush ☐ 5 day
Thermometer ID #113 #140
Correction Factor -0.5°C
Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No
Observed Temp. °C
Corrected Temp. °C
90 - 12/10/24

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

4 of 5

Company Name: Ensolum, LLC	**BILL TO**
Project Manager: Katherine Kahn	P.O. #:
Address: 3122 National Parks Hwy	Company: XTO Energy Inc
City: Carlsbad State: NM Zip: 88220	Attn: Colton Brown
Phone #: 303 319 9604 Fax #:	Address: 3104 E Green St
Project #: 03C1558073 Project Owner: XTO	City: Carlsbad
Project Name: PLU Big Sinks 25 Fed Battery	State: NM Zip: 88220
Project Location: 32.781450, -103.833297	Phone #:
Sampler Name: Joshua Boxley	Fax #:

ANALYSIS REQUEST

FOR LAB USE ONLY Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	Chlorides	TPH	BTEX
H247475																		
31	CS 31	0.5	C	1			X					X		12.9.24	1230	X	X	X
32	CS 32														1235			
33	CS 33														1250			
34	CS 34														1035			
35	CS 35														1040			
36	CS 36														1220			
37	CS 37														1042			
38	CS 38														1045			
39	CS 39														1125			
40	CS 40	0.5	C	1			X					X		12.9.24	1225	X	X	X

Relinquished By:	Date: 12-10-24	Received By:	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
	Time: 1400		All Results are emailed. Please provide Email address: @ensolum.com, TMorrissey@ensolum.com, KThomason@ensolum.com
Relinquished By:	Date:	Received By:	KKC@ResolutionConsultantsLLC.com
	Time:		REMARKS: Incident: NAB1927427793 Cost Center:

Delivered By: (Circle One)	Observed Temp. °C 0.3	Sample Condition Cool Intact	CHECKED BY: (Initials)	Turnaround Time: Standard ☑ Rush ☐ 5 day
Sampler - UPS - Bus - Other:	Corrected Temp. °C -0.3	☑ Yes ☑ Yes ☐ No ☐ No		Thermometer ID #113 #140 Correction Factor -0.5°C 12/10/24

Bacteria (only) Sample Condition: Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No Observed Temp. °C ____ Corrected Temp. °C ____

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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Page 49 of 49

Company Name: Ensolum, LLC	**BILL TO**
Project Manager: Katherine Kahn	P.O. #:
Address: 3122 National Parks Hwy	Company: XTO Energy Inc
City: Carlsbad State: NM Zip: 88220	Attn: Colton Brown
Phone #: 303 319 9604 Fax #:	Address: 3104 E Green St
Project #: 03C1558073 Project Owner: XTO	City: Carlsbad
Project Name: PLU Big Sinks 25 Fed Battery	State: NM Zip: 88220
Project Location: 32.181450, -103.833297	Phone #:
Sampler Name: Joshua Boxley	Fax #:

Lab I.D. (FOR LAB USE ONLY)	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	Chlorides	TPH	BTEX
H247475 41	PH07 B	4	G	1			X					X		12.5.24	1415	X	X	X
42	PH08 B	4	G	1			X					X		12.5.24	1335	X	X	X

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Relinquished By: [signature]	Date: 12-10-24 Time: 1400	Received By: Tamara Oldaker	Verbal Result: ☐ Yes ☐ No Add'l Phone #:
			All Results are emailed. Please provide Email address: @ensolum.com, TMorrissey@ensolum.com, KThomason@ensolum.com KK@ResolutionConsultantsLLC.com
Relinquished By:	Date: Time:	Received By:	REMARKS: Incident: NAB1921742793 Cost Center:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 0.3 Corrected Temp. °C 0.3	Sample Condition Cool ☑ Yes ☐ No Intact ☑ Yes ☐ No	CHECKED BY: (Initials) [initials]
Turnaround Time: Standard ☒ Rush ☐ 5 day	Thermometer ID #140 Correction Factor -0.5°C	Bacteria (only) Sample Condition Cool ☐ Yes ☐ No Intact ☐ Yes ☐ No	Observed Temp. °C Corrected Temp. °C

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CARDINAL Laboratories

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

January 27, 2025

KATHERINE KHAN

ENSOLUM, LLC

705 W WADLEY AVE.

MIDLAND, TX 79705

RE: PLU BS 25 FED BATTERY

Enclosed are the results of analyses for samples received by the laboratory on 01/24/25 15:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number TX-C24-00112. 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.

Cardinal Laboratories is accreditated 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

CARDINAL Laboratories

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:	01/24/2025	Sampling Date:	01/23/2025
Reported:	01/27/2025	Sampling Type:	Soil
Project Name:	PLU BS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.18145, -103.833297		

Sample ID: FS 06 4' (H250449-01)

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	01/24/2025	ND	2.22	111	2.00	4.64	
Toluene*	<0.050	0.050	01/24/2025	ND	2.19	109	2.00	7.29	
Ethylbenzene*	<0.050	0.050	01/24/2025	ND	2.20	110	2.00	6.96	
Total Xylenes*	<0.150	0.150	01/24/2025	ND	6.58	110	6.00	6.64	
Total BTEX	<0.300	0.300	01/24/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *116 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**3360**	16.0	01/27/2025	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	01/25/2025	ND	206	103	200	1.30	
DRO >C10-C28*	<10.0	10.0	01/25/2025	ND	205	102	200	1.83	
EXT DRO >C28-C36	<10.0	10.0	01/25/2025	ND					

Surrogate: 1-Chlorooctane *103 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *101 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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:	01/24/2025	Sampling Date:	01/23/2025
Reported:	01/27/2025	Sampling Type:	Soil
Project Name:	PLU BS 25 FED BATTERY	Sampling Condition:	Cool & Intact
Project Number:	03C1558073	Sample Received By:	Shalyn Rodriguez
Project Location:	XTO 32.18145, -103.833297		

Sample ID: SW 05 0-4' (H250449-02)

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	01/24/2025	ND	2.22	111	2.00	4.64	
Toluene*	<0.050	0.050	01/24/2025	ND	2.19	109	2.00	7.29	
Ethylbenzene*	<0.050	0.050	01/24/2025	ND	2.20	110	2.00	6.96	
Total Xylenes*	<0.150	0.150	01/24/2025	ND	6.58	110	6.00	6.64	
Total BTEX	<0.300	0.300	01/24/2025	ND					

Surrogate: 4-Bromofluorobenzene (PID *120 %* *71.5-134*

Chloride, SM4500Cl-B mg/kg Analyzed By: KV

Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	**1600**	16.0	01/27/2025	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	01/25/2025	ND	206	103	200	1.30	
DRO >C10-C28*	<10.0	10.0	01/25/2025	ND	205	102	200	1.83	
EXT DRO >C28-C36	<10.0	10.0	01/25/2025	ND					

Surrogate: 1-Chlorooctane *101 %* *48.2-134*

Surrogate: 1-Chlorooctadecane *101 %* *49.1-148*

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

CARDINAL Laboratories

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

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

Cardinal Laboratories *=Accredited Analyte

Celey D. Keene, Lab Director/Quality Manager

1-1

CARDINAL Laboratories

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**	
Project Manager: Katherine Khan		**P.O. #:**	
Address: 601 N Marienfeld Street, Suite 400		**Company:** XTO Energy, Inc	
City: Midland	**State:** TX **Zip:** 79701	**Attn:** Colton Brown	
Phone #: 303.319.9604	**Fax #:**	**Address:** 3104 E Greene St	
Project #: 03C1558073	**Project Owner:** XTO Energy	**City:** Carlsbad	
Project Name: PLU BS 25 Fed Battery		**State:** NM **Zip:** 88220	
Project Location: 32.18145, -103.833297		**Phone #:**	
Sampler Name: Uriel Santillana		**Fax #:**	

FOR LAB USE ONLY					MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST											
Lab I.D.	Sample I.D.	Depth (feet)	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	TPH 8015	BTEX 8021	Chloride 4500									
Hasouq																											
1	FS06	4'	C	1			X					X		1/23/25	1523	X	X	X									
2	SW05	0-4'	C	1			X					X		1/23/25	1538	X	X	X									

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 the client for the 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 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequental 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 services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	**Date:** 1-28-25 **Time:** 1500	**Received By:**	**Verbal Result:** ☐ Yes ☐ No **Add'l Phone #:**
			All Results are emailed. Please provide Email address: usantillana@ensolum.com, TMorrissey@ensolum.com, kthomason@ensolum.com
Relinquished By:	**Date:** **Time:**	**Received By:**	**REMARKS:** Incident Number: nAB1921742793

Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Observed Temp. °C 4.7 Corrected Temp. °C 4.7	**Sample Condition** Cool: ☐ Yes ☐ No Intact: ☐ Yes ☐ No	**CHECKED BY:** (Initials)	**Turnaround Time:** 24 hr **Standard** ☐ **Rush** ☒ #140 -0102 Thermometer ID #113 Correction Factor -0.5°C	**Bacteria (only) Sample Condition** Cool: ☐ Yes ☐ No Intact: ☐ Yes ☐ No **Observed Temp. °C** **Corrected Temp. °C**

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

FORM-006 R 3.2 10/07/21

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

QUESTIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 445659
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Prerequisites	
Incident ID (n#)	**nAB1921742793**
Incident Name	**NAB1921742793 PLU BIG SINKS 25 FEDERAL BATTERY @ 30-015-39018**
Incident Type	**Produced Water Release**
Incident Status	**Remediation Closure Report Received**
Incident Well	**[30-015-39018] POKER LAKE UNIT CVX JV BS #005H**
Incident Facility	**[fAPP2123047138] BIG SINKS 25 1**

Location of Release Source	
Please answer all the questions in this group.	
Site Name	PLU BIG SINKS 25 FEDERAL BATTERY
Date Release Discovered	07/07/2019
Surface Owner	Federal

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

Nature and Volume of Release	
Material(s) released, please answer all that apply below. Any calculations or specific justifications for the volumes provided should be attached to the follow-up C-141 submission.	
Crude Oil Released (bbls) Details	*Not answered.*
Produced Water Released (bbls) Details	Cause: Corrosion | Other (Specify) | Produced Water | Released: 68 BBL | Recovered: 55 BBL | Lost: 13 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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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 445659
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Nature and Volume of Release (continued)	
Is this a gas only submission (i.e. only significant Mcf values reported)	**No, according to supplied volumes this does not appear to be a "gas only" report.**
Was this a major release as defined by Subsection A of 19.15.29.7 NMAC	**Yes**
Reasons why this would be considered a submission for a notification of a major release	**From paragraph A. "Major release" determine using:** **(1) an unauthorized release of a volume, excluding gases, of 25 barrels or more.**

With the implementation of the 19.15.27 NMAC (05/25/2021), venting and/or flaring of natural gas (i.e. 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	True
The impacted area has been secured to protect human health and the environment	True
Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices	True
All free liquids and recoverable materials have been removed and managed appropriately	True
If all the actions described above have not been undertaken, explain why	*Not answered.*

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: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 03/26/2025

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 445659
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Site Characterization	
Please answer all the questions in this group (only required when seeking remediation plan 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 100 and 500 (ft.)
What method was used to determine the depth to ground water	Attached Document
Did this release impact groundwater or surface water	No
What is the minimum distance, between the closest lateral extents of the release and the following surface areas:	
A continuously flowing watercourse or any other significant watercourse	Between 1 and 5 (mi.)
Any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)	Between 1 and 5 (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	Greater than 5 (mi.)
Any other fresh water well or spring	Greater than 5 (mi.)
Incorporated municipal boundaries or a defined municipal fresh water well field	Greater than 5 (mi.)
A wetland	Between 1 and 5 (mi.)
A subsurface mine	Between 1 and 5 (mi.)
An (non-karst) unstable area	Greater than 5 (mi.)
Categorize the risk of this well / site being in a karst geology	Low
A 100-year floodplain	Between 1 and 5 (mi.)
Did the release impact areas not on an exploration, development, production, or storage site	No

Remediation Plan	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
Requesting a remediation plan approval with this submission	Yes
Attach a comprehensive report demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined, pursuant to 19.15.29.11 NMAC and 19.15.29.13 NMAC.	
Have the lateral and vertical extents of contamination been fully delineated	Yes
Was this release entirely contained within a lined containment area	No
Soil Contamination Sampling: (Provide the highest observable value for each, in milligrams per kilograms.)	
Chloride (EPA 300.0 or SM4500 Cl B)	14600
TPH (GRO+DRO+MRO) (EPA SW-846 Method 8015M)	1320
GRO+DRO (EPA SW-846 Method 8015M)	1320
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	10/22/2019
On what date will (or did) the final sampling or liner inspection occur	01/23/2025
On what date will (or was) the remediation complete(d)	01/23/2025
What is the estimated surface area (in square feet) that will be reclaimed	7190
What is the estimated volume (in cubic yards) that will be reclaimed	1065
What is the estimated surface area (in square feet) that will be remediated	7190
What is the estimated volume (in cubic yards) that will be remediated	1065
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 (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 445659
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Remediation Plan (continued)	
Please answer all the questions that apply or are indicated. This information must be provided to the appropriate district office no later than 90 days after the release discovery date.	
This remediation will (or is expected to) utilize the following processes to remediate / reduce contaminants:	
(Select all answers below that apply.)	
(Ex Situ) Excavation and **off-site** disposal (i.e. dig and haul, hydrovac, etc.)	Yes
Which OCD approved facility will be used for **off-site** disposal	HALFWAY DISPOSAL AND LANDFILL [fEEM0112334510]
OR which OCD approved well (API) will be used for **off-site** disposal	*Not answered.*
OR is the **off-site** disposal site, to be used, out-of-state	*Not answered.*
OR is the **off-site** disposal site, to be used, an NMED facility	*Not answered.*
(Ex Situ) Excavation and **on-site** remediation (i.e. On-Site Land Farms)	*Not answered.*
(In Situ) Soil Vapor Extraction	*Not answered.*
(In Situ) Chemical processing (i.e. Soil Shredding, Potassium Permanganate, etc.)	*Not answered.*
(In Situ) Biological processing (i.e. Microbes / Fertilizer, etc.)	*Not answered.*
(In Situ) Physical processing (i.e. Soil Washing, Gypsum, Disking, etc.)	*Not answered.*
Ground Water Abatement pursuant to 19.15.30 NMAC	*Not answered.*
OTHER (Non-listed remedial process)	*Not answered.*
Per Subsection 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: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 03/26/2025
The OCD recognizes that proposed remediation measures may have to be minimally adjusted in accordance with the physical realities encountered during remediation. If the responsible party has any need to significantly deviate from the remediation plan proposed, then it should consult with the division to determine if another remediation plan submission is required.	

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QUESTIONS (continued)

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

QUESTIONS

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

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QUESTIONS (continued)

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 445659
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

QUESTIONS

Sampling Event Information	
Last sampling notification (C-141N) recorded	**426413**
Sampling date pursuant to Subparagraph (a) of Paragraph (1) of Subsection D of 19.15.29.12 NMAC	**02/03/2025**
What was the (estimated) number of samples that were to be gathered	**1**
What was the sampling surface area in square feet	**200**

Remediation Closure Request	
Only answer the questions in this group if seeking remediation closure for this release because all remediation steps have been completed.	
Requesting a remediation closure approval with this submission	Yes
Have the lateral and vertical extents of contamination been fully delineated	**Yes**
Was this release entirely contained within a lined containment area	**No**
All areas reasonably needed for production or subsequent drilling operations have been stabilized, returned to the sites existing grade, and have a soil cover that prevents ponding of water, minimizing dust and erosion	Yes
What was the total surface area (in square feet) remediated	7190
What was the total volume (cubic yards) remediated	1065
All areas not reasonably needed for production or subsequent drilling operations have been reclaimed to contain a minimum of four feet of non-waste contain earthen material with concentrations less than 600 mg/kg chlorides, 100 mg/kg TPH, 50 mg/kg BTEX, and 10 mg/kg Benzene	Yes
What was the total surface area (in square feet) reclaimed	540
What was the total volume (in cubic yards) reclaimed	80
Summarize any additional remediation activities not included by answers (above)	"Soil delineation sampling, excavation activities, and confirmation sampling were conducted at the Site to address the July 7, 2019 release of produced water. Following excavation, laboratory analytical results from delineation and confirmation sampling indicate that all COC concentrations were in compliance with the Closure Criteria and waste-containing soil were fully defined to the reclamation standard in the top 4 feet of soil. Due to the presence of multiple utilities at the active Site, the release was remediated on-pad to Closure Criteria for safety reasons. Following the delineation and excavation activities conducted in 2025, approximately 6,650 square feet of waste-containing soil was delineated within the top 4 feet of soil and present at sample locations CS01 through CS05, CS07 through CS18, CS19 through CS32, CS34 through CS39, and PH01 through PH08. Following Site decommissioning, an estimated 985 cubic yards of waste-containing soil will be remediated. The presence of the waste-containing soil present on-pad does not cause an imminent risk to human health, the environment, or groundwater. XTO will remediate this soil reporting COC concentrations exceeding reclamation requirement but below Closure Criteria prior to Site reclamation. "
The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (in .pdf format) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.	

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

I hereby agree and sign off to the above statement	Name: Colton Brown Title: Environmental Advisor Email: colton.s.brown@exxonmobil.com Date: 03/26/2025

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QUESTIONS (continued)

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QUESTIONS

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

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CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 445659
	Action Type: [C-141] Remediation Closure Request C-141 (C-141-v-Closure)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your Remediation Closure Report for Incident #NAB1921742793 PLU BIG SINKS 25 FEDERAL BATTERY, thank you. This Remediation Closure Report is approved.	5/13/2025