

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	NAB1913729531
District RP	2RP-5422
Facility ID	
Application ID	pAB1913728922

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)	NAB1913729531
Contact mailing address	522 W. Mermod, Carlsbad, NM 88220		

Location of Release Source

Latitude 32.248381° Longitude -103.859348°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Big Sinks 2-24-30 State Battery	Site Type	Bulk Storage and Separation Facility
Date Release Discovered	4/25/2019	API# (if applicable)	30-015-39246

Unit Letter	Section	Township	Range	County
E	2	24S	30E	Eddy

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

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) 70	Volume Recovered (bbls) 0
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	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

Fluids were released to the well pad and the pasture south of the well pad due to an open valve on a circulating pump. The valve was closed to stop the release of fluids. Additional third party resources have been retained to assist with remediation.

Form C-141

State of New Mexico
Oil Conservation Division

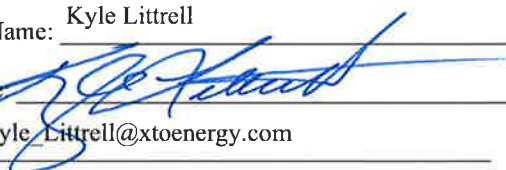
Page 2

Incident ID	NAB1913729531
District RP	2RP-5422
Facility ID	
Application ID	pAB1913728922

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), and Ryan Mann (SLO) on 4/26/2019 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 <u>not</u> 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: <u>Kyle Littrell</u> Signature: <u></u> email: <u>Kyle_Littrell@xtoenergy.com</u>	Title: <u>SH&E Supervisor</u> Date: <u>5/2/2019</u> Telephone: <u>432-221-7331</u>
OCD Only Received by: <u></u> Date: <u>5/17/2019</u>	

Location:	Big Sinks 2-24-30 St Btry (30-015-39246)	
Spill Date:	4/25/2019	
Approximate Area=	6,293	ft ²
Average Saturation (or depth) of Spill=	5.00	inches

Approximate Oil %	100	
Average Porosity Factor=	0.15	

VOLUME OF LEAK		
Total Oil=	70	barrels
Total Produced Water=	0	barrels

Incident ID	NAB1913729531
District RP	2RP-5422
Facility ID	
Application ID	pAB1913728922

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>>100</u> (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.

Incident ID	NAB1913729531
District RP	2RP-5422
Facility ID	
Application ID	pAB1913728922

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: 03/24/2020

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

OCD Only

Received by: _____ Date: _____

Incident ID	NAB1913729531
District RP	2RP-5422
Facility ID	
Application ID	pAB1913728922

Remediation Plan

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

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

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

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

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

Printed Name: Kyle Littrell Title: SH&E SupervisorSignature:  Date: 03/24/2020email: Kyle_Littrell@xtoenergy.com Telephone: (432)-221-7331**OCD Only**

Received by: _____ Date: _____

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: _____ Date: _____



LT Environmental, Inc.

3300 North "A" Street
Building 1, Unit 222
Midland, Texas 79705
432.704.5178

March 24, 2020

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

**RE: Deferral Request
Big Sinks 2-24-30 State Battery
Remediation Permit Number 2RP-5422
Incident Number NAB1913729531
Eddy County, New Mexico**

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Deferral Request detailing site assessment, soil sampling, and remediation activities at the Big Sinks 2-24-30 State Battery (Site) in Unit E, Section 2, Township 24 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment, soil sampling, and remediation activities was to confirm the presence or absence of impacts to soil following a release of crude oil at the Site. Based on field observations, field screening, and laboratory analytical results from soil sampling activities following excavation of impacted soil, XTO is submitting this Deferral Request for final remediation in inaccessible areas and respectfully requesting no further action (NFA) until any major renovation, deconstruction and/or the pipeline is abandoned.

RELEASE BACKGROUND

On April 25, 2019, an open valve on a circulating pump resulted in the release of approximately 70 barrels (bbls) of crude oil onto the caliche well pad at the Site, and into the pasture area to the south of the well pad. The valve was closed to stop the release of fluid. No fluid was 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 May 2, 2019, and the release event was subsequently assigned Remediation Permit (RP) Number 2RP-5422 and Incident Number NAB1913729531.

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 closest permitted groundwater well with depth to groundwater data is United States Geological Survey well 321526103520101,



located approximately 4,107 feet northwest of the Site. The groundwater well has a reported depth to groundwater of approximately 441 feet bgs and a total depth of approximately 567 feet bgs. It should be noted that of the eight closest water wells to the site with reported depth to water information, depth to groundwater measurements exceeded 400 feet bgs. The closest continuously-flowing water or significant watercourse to the Site is an intermittent stream, located approximately 1.22 miles southeast 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, or church. 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 greater than 300 feet from a wetland. The Site is not underlain by unstable geology (low potential karst designation 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

Additionally, the reclamation of the affected pasture area must be comprised of non-waste containing earthen material exhibiting chloride concentrations below 600 mg/kg, which was applied per NMAC 19.15.29.13.D (1) to the top 4 feet.

SITE ASSESSMENT AND SOIL SAMPLING ACTIVITIES

On May 14, 2019, LTE personnel conducted reconnaissance of the Site to evaluate the release extent. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS). LTE personnel collected and field screened preliminary soil samples at seven locations (SS01 through SS07) within the release extent. The locations of the preliminary soil samples are presented on Figure 2. Photographic documentation was conducted during the Site visit and a Photographic Log is included in Attachment 1.

The preliminary soil samples were collected at a depth of approximately 0.5 feet bgs. The soil samples were field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time,



sampler name, method of analysis, and immediately placed on ice. The soil samples were transported 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, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results indicated BTEX, TPH-GRO and TPH-DRO, and/or TPH concentrations exceeded the Closure Criteria in all seven preliminary soil samples. In addition, chloride concentrations exceeded the reclamation requirement in soil sample SS07. Based on visual observations, field screening results, and laboratory analytical results, delineation and excavation appeared warranted in the vicinity of preliminary soil samples SS01 through SS07 as part of the release extent. The laboratory analytical report is included in Attachment 2.

EXCAVATION AND DELINEATION SOIL SAMPLING ACTIVITIES

From December 11, 2019 through February 18, 2020, LTE oversaw excavation activities to remediate impacted and waste-containing soil as indicated by visual observations, field screening results, and preliminary soil sample laboratory analytical results. Excavation activities were performed using a track-mounted backhoe and transport vehicles.

Following removal of impacted and waste-containing soil, LTE collected 5-point composite soil samples at a frequency of every 200 square feet from the sidewalls and floor of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. A total of 49 composite floor soil samples (FS01 through FS40, FS03A, FS04A, FS06A, FS17A, FS21A, FS27A, FS28A, FS30A, and FS39A) and 30 composite sidewall samples (SW01 through SW30) were collected from the excavation. Floor samples were collected at depths ranging from approximately 2 feet to 8.5 feet bgs and sidewall samples were collected from the ground surface to the maximum depth of approximately 8.5 feet bgs. The excavation soil samples were collected, handled, and analyzed as described above. The locations of final excavation confirmation samples are presented on Figure 3.

Due to the proximity of the shallow-buried pipelines (approximately 5 feet bgs) on the edge of the active well pad, two excavations were completed. The excavation extents totaled approximately 12,000 square feet in area. Approximately 1,950 cubic yards of impacted and waste-containing soil were removed during the excavation activities; however, residual impacted soil was left in place for compliance with the XTO safety policy regarding soil-disturbing activities within 2 feet of active pipelines. The pipeline to the south is a high-pressure Energy Transfer line. An Energy Transfer representative was onsite to oversee the excavation near the pipeline and ensure no excavation with mechanical equipment, hydrovacuum truck, or hand shoveling occurred within 2 feet of their pipeline. In addition to hydro-excavation, hand shoveling was conducted to remove impacted soil to the maximum extent practicable (MEP), and allowed by



XTO and Energy Transfer safety policies, adjacent to the active production areas and pipelines. The impacted soil was transported and properly disposed of at the R360 landfill facility located in Hobbs, New Mexico. After completion of confirmation sampling, the excavation was secured with fencing.

On February 12, 2020, three boreholes (BH01 through BH03) were advanced via a stainless steel hand-auger within the release extent that could not be excavated due to the proximity of active pipelines. Three boreholes (BH01 through BH03) were advanced to depths ranging from approximately 4 feet to 7 feet bgs. Three discrete soil samples were collected from each borehole at depths ranging from approximately 0.5 foot to 7 feet bgs. Field screening results and observations for each borehole were logged on lithologic/soil sampling logs, which are included in Attachment 3. The locations of delineation boreholes are presented on Figure 3. The discrete delineation soil samples were collected, handled, and analyzed as described above at Xenco in Carlsbad, New Mexico.

ANALYTICAL RESULTS

Laboratory analytical results indicated BTEX, TPH-GRO, TPH-DRO, and/or TPH concentrations exceeded the Closure Criteria in all preliminary soil samples (SS01 through SS07) and the chloride concentration in soil sample SS07 exceeded the reclamation requirement. Impacted soil was excavated in the vicinity of these soil sample locations and other areas exhibiting field screening results that would likely exceed the Closure Criteria,. LTE collected confirmation soil samples from the floor and sidewalls of the excavation extents following excavation activities. Laboratory analytical results indicated TPH-GRO, TPH-DRO, and/or TPH concentrations exceeded the Closure Criteria in excavation soil samples FS03, FS04, FS06, FS11, FS13, FS17, FS21, FS27, FS28, FS30, FS39, SW03, SW04, SW06, SW13, SW22, SW24, and SW29, collected from the floor and sidewalls at depths ranging from the ground surface to approximately 8.5 feet bgs. Laboratory analytical results indicated benzene, BTEX, TPH-GRO and TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria in all other excavation soil samples.

Based on laboratory analytical results, additional soil was excavated, and LTE collected subsequent confirmation soil samples within the excavation extent. Laboratory analytical results indicated confirmation soil samples FS03A, FS04A, FS06A, FS17A, FS21A, FS27A, FS28A, FS30A, FS39A were compliant with the Closure Criteria and confirmed the absence of impacts in the vicinity of former confirmation floor soil samples FS03, FS04, FS06, FS17, FS21, FS27, FS28, FS30, and FS39. Additionally, confirmation sidewall soil samples SW19 and SW20 confirmed the absence of impacts exceeding the Closure Criteria in the vicinity of former confirmation sidewall soil samples SW06 and SW13, collected at depths ranging from approximately 3.5 feet to 8.5 feet bgs.

Further excavation in the areas of confirmation soil samples FS11, FS13, SW03, SW04, SW22, SW24, and SW29 was not feasible due to the proximity of active pipelines. XTO safety policy



restricts soil-disturbing activities within 2 feet of active pipelines. In addition, Energy Transfer restricted any soil-disturbing activities within 2 feet of their high-pressure pipeline. Laboratory analytical results are presented in Table 1. The complete laboratory analytical reports are included as Attachment 2.

DEFERRAL REQUEST

Approximately 1,950 cubic yards of impacted and waste-containing soil were excavated from the Site; however, residual impacted soil was left in place for compliance with the XTO safety policy regarding soil-disturbing activities within 2 feet of active pipelines and Energy Transfer safety policy regarding soil-disturbing activities within 2 feet of their high-pressure pipeline. In addition to hydro-excavation, hand shoveling was conducted to remove impacted soil to the MEP adjacent to active production areas and pipelines.

Laboratory analytical results indicated confirmation soil samples FS11, FS13, SW03, SW04, SW22, SW24, and SW29, collected from the floor and sidewalls excavation, exceeded the Closure Criteria. Due to the presence of pipelines, further excavation in these areas was not feasible; however, confirmation soil samples SW05, SW11, SW15, SW20, FS07, FS09, FS10, FS12, FS32, FS33, FS36 through FS38, and FS39A and borehole samples BH01/BH01A/BH01B through BH03/BH03A/BH03B confirm lateral and vertical delineation in these areas left in place. Approximately 175 cubic yards of impacted soil remains in place at the Site, assuming a total depth of approximately 3 feet bgs beneath the pipelines adjacent to confirmation soil samples FS11, FS13, SW03, and SW04, a total depth of approximately 5 feet bgs beneath the pipeline adjacent to confirmation soil sample SW24, and a total depth of approximately 8.5 feet bgs beneath the pipeline adjacent to confirmation soil samples SW22 and SW29.

XTO requests to backfill the excavations and complete remediation during any future major construction/alteration or final plugging and abandonment, whichever occurs first. While residual TPH is present within the release extent as part of the August 2019 release, LTE and XTO do not believe deferment will result in imminent risk to human health, the environment, or groundwater since overburden, non-waste containing soil will minimize dermal contact and depth to water beneath the Site is anticipated to be greater than 400 feet bgs. XTO requests deferral of final remediation for RP Number 2RP-5422 and Incident Number NAB1913729531. Upon approval of this Deferral Request, XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing Site conditions. An updated Form C-141 is attached to this request.



Bratcher, M.
Page 6

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

Sincerely,

LT ENVIRONMENTAL, INC.

A handwritten signature in black ink, reading 'Carol Ann Whaley'.

Carol Ann Whaley
Staff Geologist

A handwritten signature in black ink, reading 'Ashley L. Ager'.

Ashley L. Ager, P.G.
Senior Geologist

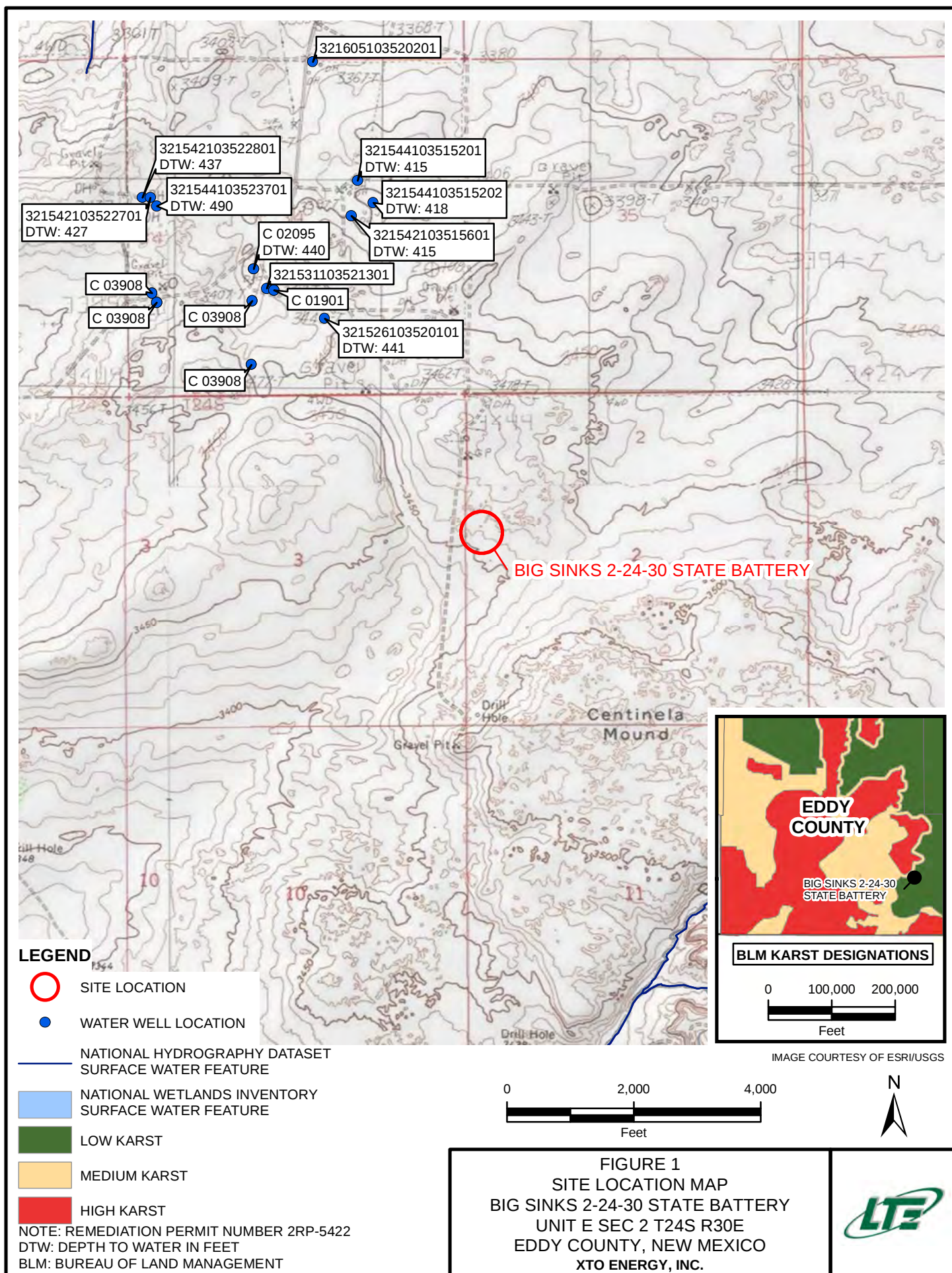
cc: Kyle Littrell, XTO
Ryann Mann, State Land Office
Robert Hamlet, NMOCD
Victoria Venegas, NMOCD

Appendices:

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

FIGURES





SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
 SAMPLE DATE
 NMOCD TABLE 1 CLOSURE CRITERIA (NMAC 19.15.29.12)
 B = 10 mg/kg
 BTEX = 50 mg/kg
 GRO+DRO = 1,000 mg/kg
 TPH = 2,500 mg/kg
 Cl = 20,000 mg/kg
 NMOCD RECLAMATION CLOSURE CRITERIA FOR TOP FOUR
 FEET OF AREAS TO BE RECLAIMED (NMAC 19.15.29.13.D (1))
 Cl = 600 mg/kg
 ALL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)
 <: INDICATES RESULT IS LESS THAN THE
 LABORATORY REPORTING LIMIT
BOLD: INDICATES RESULT EXCEEDS THE
 APPLICABLE REGULATORY CLOSURE CRITERIA

SS05@0.5'
 05/14/2019
 B: <0.504
 BTEX: 32.9
 GRO+DRO: **5,060**
 TPH: **6,150**
 Cl: <4.97

SS07@0.5'
 05/14/2019
 B: <0.497
 BTEX: **71.8**
 GRO+DRO: **9,570**
 TPH: **12,800**
 Cl: 3,160

SS06@0.5'
 05/14/2019
 B: <0.498
 BTEX: **79.7**
 GRO+DRO: **7,980**
 TPH: **10,300**
 Cl: 13.8

SS04@0.5'
 05/14/2019
 B: <0.497
 BTEX: 47.4
 GRO+DRO: **5,200**
 TPH: **6,250**
 Cl: <5.00

SS03@0.5'
 05/14/2019
 B: <0.0502
 BTEX: 42.0
 GRO+DRO: **4,530**
 TPH: **5,760**
 Cl: <5.01

SS01@0.5'
 05/14/2019
 B: <0.0499
 BTEX: **61.2**
 GRO+DRO: **11,900**
 TPH: **15,800**
 Cl: <5.05

SS02@0.5'
 05/14/2019
 B: <0.496
 BTEX: 47.3
 GRO+DRO: **8,280**
 TPH: **10,700**
 Cl: 11.9

LEGEND



RELEASE LOCATION



PRELIMINARY SOIL SAMPLE WITH CONCENTRATIONS
 EXCEEDING APPLICABLE CLOSURE CRITERIA

PIPELINE



WATER LINE



RELEASE EXTENT



WATER LINE RISER EQUIPMENT

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-5422

IMAGE COURTESY OF ESRI

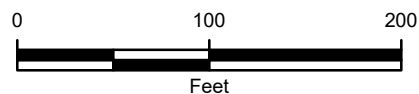
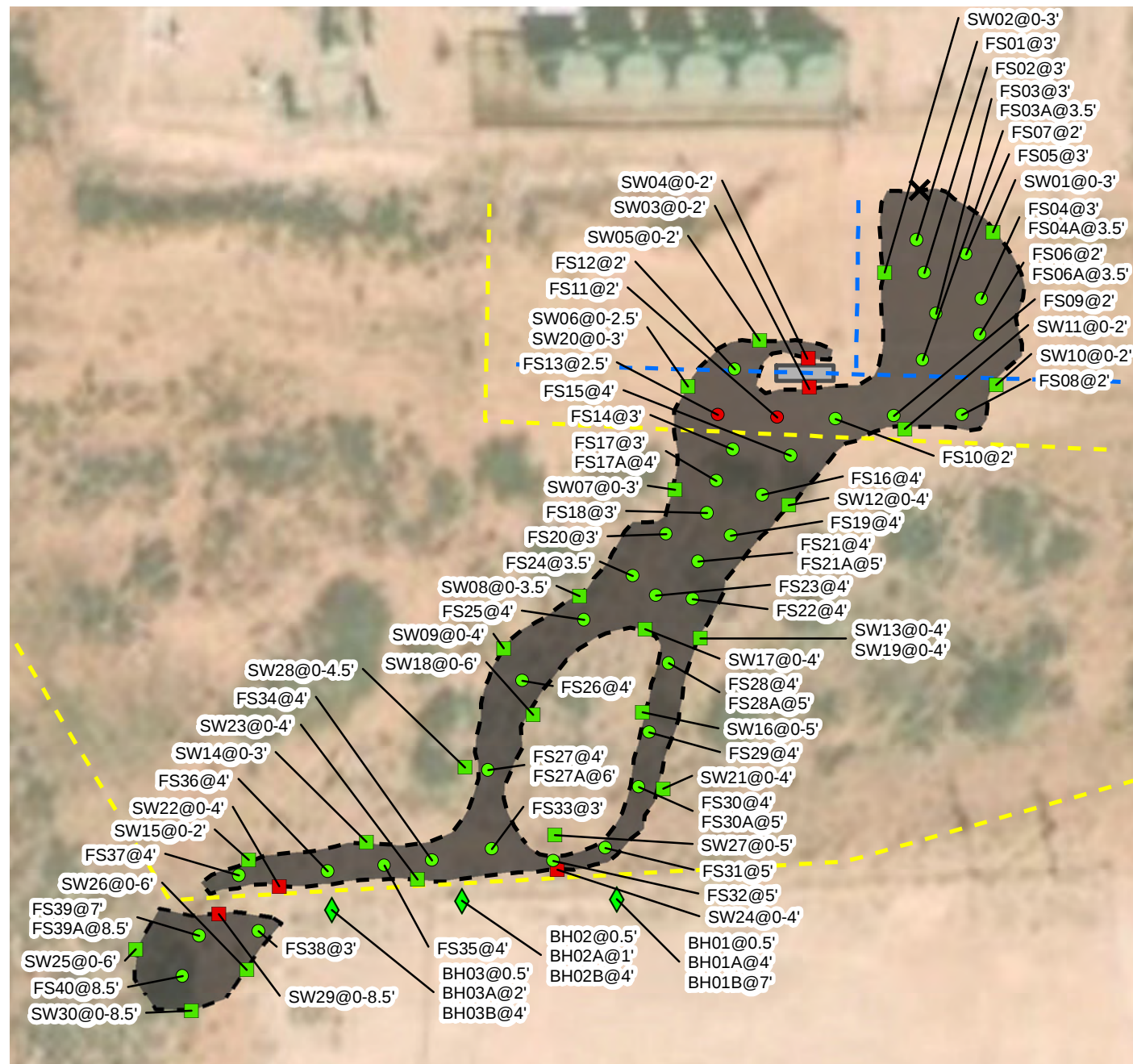


FIGURE 2
 PRELIMINARY SOIL SAMPLE LOCATIONS
 BIG SINKS 2-24-30 STATE BATTERY
 UNIT E SEC 2 T24S R30E
 EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.



**LEGEND**

RELEASE LOCATION

FLOOR SAMPLE WITH CONCENTRATIONS
EXCEEDING APPLICABLE CLOSURE CRITERIAFLOOR SAMPLE IN COMPLIANCE
WITH APPLICABLE CLOSURE CRITERIASIDEWALL SAMPLE WITH CONCENTRATIONS
EXCEEDING APPLICABLE CLOSURE CRITERIASIDEWALL SAMPLE IN COMPLIANCE
WITH APPLICABLE CLOSURE CRITERIADELINEATION SOIL SAMPLE IN COMPLIANCE
WITH APPLICABLE CLOSURE CRITERIA

--- PIPELINE

--- WATER LINE

SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
NOTE: REMEDIATION PERMIT NUMBER 2RP-5422

EXCAVATION EXTENT



WATER LINE RISER EQUIPMENT

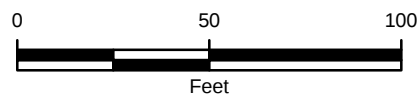


IMAGE COURTESY OF ESRI

FIGURE 3
SOIL SAMPLE LOCATIONS
BIG SINKS 2-24-30 STATE BATTERY
UNIT E SEC 2 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.



TABLE



TABLE 1
SOIL ANALYTICAL RESULTS

BIG SINKS 2-24-30 STATE BATTERY
REMEDIATION PERMIT NUMBER 2RP-5422
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)
NMOCB Table 1 Closure Criteria			10	NE	NE	NE	50	NE	NE	NE	1,000	2,500	20,000
SS01	0.5	05/14/2019	<0.499	6.85	6.19	48.2	61.2	1,680	10,200	3,910	11,900	15,800	<5.05
SS02	0.5	05/14/2019	<0.496	4.70	5.03	37.6	47.3	1,310	6,970	2,370	8,280	10,700	11.9
SS03	0.5	05/14/2019	<0.502	3.21	4.50	34.3	42.0	771	3,760	1,230	4,530	5,760	<5.01
SS04	0.5	05/14/2019	<0.497	4.73	5.10	37.6	47.4	1,150	4,050	1,050	5,200	6,250	<5.00
SS05	0.5	05/14/2019	<0.504	2.93	3.53	26.4	32.9	737	4,320	1,090	5,060	6,150	<4.97
SS06	0.5	05/14/2019	<0.498	7.86	8.23	63.6	79.7	1,790	6,190	2,330	7,980	10,300	13.8
SS07	0.5	05/14/2019	<0.497	6.08	7.57	58.1	71.8	1,870	7,700	3,260	9,570	12,800	3,160
BH01	0.5	02/12/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	<10.1
BH01A	4	02/12/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	15.5
BH01B	7	02/12/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.2	<50.2	<50.2	<50.2	<50.2	20.4
BH02	0.5	02/12/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.2	<50.2	<50.2	<50.2	<50.2	<10.0
BH02A	1	02/12/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	<9.98
BH02B	4	02/12/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	70.9
BH03	0.5	02/12/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.2	<50.2	<50.2	<50.2	<50.2	<9.98
BH03A	2	02/12/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	<9.92
BH03B	4	02/12/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	<9.94
FS01	3	12/11/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.3	154	<50.3	154	154	527
FS02	3	12/11/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	231	<50.0	231	231	109
FS03	3	12/11/2019	<0.00201	0.00259	0.0273	0.0570	0.0869	62.4	1,390	121	1,450	1,570	113
FS03A	3.5	01/02/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.3	<50.3	<50.3	<50.3	<50.3	344
FS04	3	12/11/2019	<0.00201	0.00728	0.0331	0.107	0.148	149	2,050	173	2,200	2,370	73.0
FS04A	3.5	01/02/2020	<0.00198	0.0177	0.0548	0.497	0.570	<49.9	77.1	<49.9	77.1	77.1	22.8
FS05	3	12/11/2019	<0.00199	0.00257	<0.00199	0.0126	0.0152	<50.3	138	<50.3	138	138	227
FS06	2	12/11/2019	<0.0200	<0.0200	0.144	0.271	0.415	109	1,120	102	1,230	1,330	44.7
FS06A	3.5	01/02/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.1	<50.1	<50.1	<50.1	<50.1	74.7
FS07	2	12/11/2019	<0.00201	<0.00201	<0.00201	0.00235	0.00235	<50.2	124	<50.2	124	124	11.5
FS08	2	12/11/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.9	62.6	<49.9	62.6	62.6	<9.98

TABLE 1
SOIL ANALYTICAL RESULTS

BIG SINKS 2-24-30 STATE BATTERY
REMEDIATION PERMIT NUMBER 2RP-5422
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)
NMOCDC Table 1 Closure Criteria			10	NE	NE	NE	50	NE	NE	NE	1,000	2,500	20,000
FS09	2	12/11/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.1	<50.1	<50.1	<50.1	<50.1	<9.94
FS10	2	12/11/2019	<0.00201	0.00270	0.0145	0.0902	0.107	82.9	694	52.4	777	829	43.3
FS11	2	12/11/2019	<0.0200	0.444	0.965	7.64	9.05	796	4,180	324	4,980	5,300	<10.1
FS12	2	12/11/2019	<0.0385	<0.0385	<0.0385	0.227	0.227	<50.2	545	<50.2	545	545	<9.98
FS13	2.5	01/02/2020	<0.0251	0.279	0.881	6.20	7.36	261	2,340	176	2,600	2,780	<10.1
FS14	3	01/02/2020	<0.0200	<0.0200	<0.0200	<0.0200	<0.0200	<50.3	<50.3	<50.3	<50.3	<50.3	<9.98
FS15	4	01/02/2020	<0.00198	<0.00198	0.00265	0.0200	0.0227	<50.0	366	<50.0	366	366	<9.96
FS16	4	01/02/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	<10.0
FS17	3	01/02/2020	<0.0179	<0.0179	0.0654	0.518	0.583	125	1,140	90.1	1,270	1,360	<10.1
FS17A	4	02/06/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	10.2
FS18	3	01/02/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	<9.98
FS19	4	01/02/2020	<0.0185	<0.0185	0.0362	0.299	0.335	65.2	663	64.8	728	793	<9.94
FS20	3	01/02/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	<9.98
FS21	4	01/02/2020	<0.0204	<0.0204	<0.0204	0.0214	0.0214	94.6	1,570	130	1,660	1,790	<10.0
FS21A	5	02/06/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.8	<49.8	<49.8	<49.8	<49.8	<10.0
FS22	4	01/02/2020	<0.0192	<0.0192	<0.0192	<0.0192	<0.0192	<50.0	164	<50.0	164	164	<10.1
FS23	4	01/02/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	91.0	<50.0	91.0	91.0	<10.0
FS24	3.5	01/02/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.1	94.7	<50.1	94.7	94.7	<9.94
FS25	4	01/09/2020	<0.0200	<0.0200	0.180	1.19	1.37	112	621	<50.3	733	733	<9.98
FS26	4	01/09/2020	<0.0196	0.0652	0.284	2.17	2.51	119	571	<50.2	690	690	<9.94
FS27	4	01/09/2020	<0.0196	0.783	1.42	10.4	12.6	683	3,240	241	3,920	4,160	<9.98
FS27A	6	02/06/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	<9.98
FS28	4	01/09/2020	<0.00202	0.00282	0.0129	0.101	0.117	168	1,610	128	1,780	1,910	<9.88
FS28A	5	02/06/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	16.2
FS29	4	01/09/2020	<0.00202	<0.00202	<0.00202	0.0119	0.0119	<50.2	92.4	<50.2	92.4	92.4	<9.94
FS30	4	01/09/2020	<0.00200	0.0369	0.127	1.06	1.22	411	1,910	155	2,320	2,480	<10.1
FS30A	5	02/06/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	11.6

TABLE 1
SOIL ANALYTICAL RESULTS

BIG SINKS 2-24-30 STATE BATTERY
REMEDIATION PERMIT NUMBER 2RP-5422
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
FS31	5	02/18/2020	<0.00917	<0.00917	<0.00917	<0.00917	<0.00917	<50.2	<50.2	<50.2	<50.2	<50.2	12.6
FS32	5	02/18/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	120	<50.0	120	120	12.8
FS33	3	02/07/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.2	<50.2	<50.2	<50.2	<50.2	22.4
FS34	4	02/11/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	12.8
FS35	4	02/11/2020	<0.00201	<0.00201	0.00201	0.0183	0.0203	<50.1	100	<50.1	100	100	25.2
FS36	4	02/11/2020	<0.00202	0.101	0.200	1.14	1.44	96.0	621	<50.2	717	717	15.5
FS37	4	02/11/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	23.2
FS38	3	02/13/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	<9.94
FS39	7	02/13/2020	<0.0208	0.0258	0.326	2.48	2.83	371	2,080	158	2,450	2,610	<9.92
FS39A	8.5	02/18/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	12.4
FS40	8.5	02/18/2020	<0.00201	<0.00201	<0.00201	0.0175	0.0175	<49.8	83.8	<49.8	83.8	83.8	<9.92
SW01	0 - 3	01/02/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	100
SW02	0 - 3	01/02/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.1	<50.1	<50.1	<50.1	<50.1	23.3
SW03	0 - 2	01/02/2020	<0.0200	<0.0200	0.0827	0.886	0.969	229	4,270	338	4,500	4,840	30.7
SW04	0 - 2	01/02/2020	<0.0200	0.0211	0.107	1.34	1.47	191	2,820	250	3,010	3,260	<10.1
SW05	0 - 2	01/02/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	<49.8	<10.0
SW06	0 - 2.5	01/02/2020	<0.0196	<0.0196	<0.0196	<0.0196	<0.0196	358	3,050	250	3,410	3,660	<9.94
SW07	0 - 3	01/09/2020	<0.00200	<0.00200	0.00369	0.0275	0.0312	<50.0	<50.0	<50.0	<50.0	<50.0	<10.0
SW08	0 - 3.5	01/09/2020	<0.00199	<0.00199	<0.00199	0.00834	0.00834	<50.2	66.4	<50.2	66.4	66.4	<10.0
SW09	0 - 4	01/09/2020	<0.00198	<0.00198	0.00376	0.0396	0.0434	<50.1	161	<50.1	161	161	<10.0
SW10	0 - 2	01/09/2020	<0.00202	<0.00202	<0.00202	0.0160	0.0160	<50.1	190	<50.1	190	190	23.6
SW11	0 - 2	01/09/2020	<0.00202	0.00431	0.00557	0.0238	0.0337	<50.3	996	128	996	1,120	20.2
SW12	0 - 4	01/09/2020	<0.0196	<0.0196	0.0703	0.278	0.348	65.6	708	76.9	774	851	12.4
SW13	0 - 4	01/09/2020	<0.0200	0.0507	0.265	2.20	2.51	373	1,700	146	2,070	2,220	<9.98
SW14	0 - 3	02/06/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<49.8	<49.8	<49.8	<49.8	<49.8	<10.0
SW15	0 - 2	02/06/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.2	<50.2	<50.2	<50.2	<50.2	<10.0
SW16	0 - 5	02/07/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.1	<50.1	<50.1	<50.1	<50.1	<10.0

TABLE 1
SOIL ANALYTICAL RESULTS

BIG SINKS 2-24-30 STATE BATTERY
REMEDATION PERMIT NUMBER 2RP-5422
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
SW17	0 - 4	02/07/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	<10.0
SW18	0 - 6	02/07/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.2	<50.2	<50.2	<50.2	<50.2	<10.1
SW19	0 - 4	02/07/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.2	<50.2	<50.2	<50.2	<50.2	<10.0
SW20	0 - 3	02/07/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.2	<50.2	<50.2	<50.2	<50.2	<10.0
SW21	0 - 4	02/11/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.3	<50.3	<50.3	<50.3	<50.3	<9.98
SW22	0 - 4	02/13/2020	<0.0250	0.0385	0.194	1.62	1.85	291	1,570	122	1,860	1,980	<9.94
SW23	0 - 4	02/13/2020	<0.00200	<0.00200	<0.00200	0.00313	0.00313	<50.1	231	<50.1	231	231	<9.98
SW24	0 - 4	02/13/2020	<0.0167	0.156	0.841	6.24	7.24	266	1,590	124	1,860	1,980	<9.94
SW25	0 - 6	02/13/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	<9.94
SW26	0 - 6	02/13/2020	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	<9.96
SW27	0 - 5	02/18/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	<9.94
SW28	0 - 4.5	02/18/2020	<0.00199	<0.00199	<0.00199	0.0122	0.0122	<49.9	73.0	<49.9	73.0	73.0	<9.88
SW29	0 - 8.5	02/18/2020	<0.00199	0.0229	0.109	0.106	0.238	120	2,490	225	2,610	2,840	<9.98
SW30	0 - 8.5	02/18/2020	<0.00202	<0.00202	<0.00202	0.00809	0.00809	<50.2	<50.2	<50.2	<50.2	<50.2	<9.98

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



PHOTOGRAPHIC LOG



Western view of point of release area on the caliche well pad during site assessment activities.



Southern view of excavation in the pasture area during excavation activities.

Big Sinks 2-24-30 State Battery
2RP-5422
NAB1913729531
012919074
May 14, 2019 and February 14, 2020

PHOTOGRAPHIC LOG



Western view of southern excavation extent during confirmation soil sampling activities.



Northern view of excavation in the pasture area during confirmation soil sampling activities.

Big Sinks 2-24-30 State Battery
2RP-5422
NAB1913729531
012919074
February 14, 2020

ATTACHMENT 2: LABORATORY ANALYTICAL REPORTS



Analytical Report 624803

for
LT Environmental, Inc.

Project Manager: Ashley Ager

Big Sinks 2-24-30

30-MAY-19

Collected By: Client



**1211 W. Florida Ave
Midland TX 79701**

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)



30-MAY-19

Project Manager: **Ashley Ager**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **624803**

Big Sinks 2-24-30

Project Address: Delaware Basin

Ashley Ager:

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) 624803. 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. 624803 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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

**Sample Cross Reference 624803****LT Environmental, Inc., Arvada, CO**

Big Sinks 2-24-30

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	05-14-19 15:40	0.5 ft	624803-001
SS02	S	05-14-19 15:47	0.5 ft	624803-002
SS03	S	05-14-19 15:49	0.5 ft	624803-003
SS04	S	05-14-19 15:51	0.5 ft	624803-004
SS05	S	05-14-19 15:53	0.5 ft	624803-005
SS06	S	05-14-19 16:00	0.5 ft	624803-006
SS07	S	05-14-19 16:10	0.5 ft	624803-007

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: Big Sinks 2-24-30**

Project ID:
Work Order Number(s): 624803

Report Date: 30-MAY-19
Date Received: 05/20/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3090333 TPH by SW8015 Mod

Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected.

Samples affected are: 624803-003,624803-006,624803-005,624803-004.

Batch: LBA-3090390 BTEX by EPA 8021B

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

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

Samples affected are: 624803-001,624803-002,624803-003,624803-007,624803-005,624803-006,624803-004.



Certificate of Analysis Summary 624803

LT Environmental, Inc., Arvada, CO

Project Name: Big Sinks 2-24-30



Project Id:

Contact: Ashley Ager

Project Location: Delaware Basin

Date Received in Lab: Mon May-20-19 08:41 am

Report Date: 30-MAY-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	624803-001	624803-002	624803-003	624803-004	624803-005	624803-006
	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:	May-14-19 15:40	May-14-19 15:47	May-14-19 15:49	May-14-19 15:51	May-14-19 15:53	May-14-19 16:00
BTEX by EPA 8021B	Extracted:	May-28-19 15:00	May-28-19 15:00	May-28-19 15:00	May-28-19 15:00	May-28-19 15:00	May-28-19 15:00
	Analyzed:	May-28-19 17:55	May-28-19 18:14	May-28-19 18:33	May-28-19 18:53	May-28-19 19:12	May-28-19 19:31
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.499 0.499	<0.496 0.496	<0.502 0.502	<0.497 0.497	<0.504 0.504	<0.498 0.498
Toluene		6.85 0.499	4.70 0.496	3.21 0.502	4.73 0.497	2.93 0.504	7.86 0.498
Ethylbenzene		6.19 0.499	5.03 0.496	4.50 0.502	5.10 0.497	3.53 0.504	8.23 0.498
m,p-Xylenes		34.9 0.998	27.2 0.992	24.7 1.00	27.2 0.994	19.0 1.01	45.7 0.996
o-Xylene		13.3 0.499	10.4 0.496	9.58 0.502	10.4 0.497	7.43 0.504	17.9 0.498
Total Xylenes		48.2 0.499	37.6 0.496	34.3 0.502	37.6 0.497	26.4 0.504	63.6 0.498
Total BTEX		61.2 0.499	47.3 0.496	42.0 0.502	47.4 0.497	32.9 0.504	79.7 0.498
Chloride by EPA 300	Extracted:	May-20-19 16:00	May-20-19 16:00	May-20-19 16:00	May-21-19 15:15	May-21-19 15:15	May-21-19 15:15
	Analyzed:	May-21-19 01:01	May-21-19 01:08	May-21-19 01:16	May-21-19 22:35	May-21-19 22:56	May-21-19 23:04
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<5.05 5.05	11.9 5.02	<5.01 5.01	<5.00 5.00	<4.97 4.97	13.8 4.96
TPH by SW8015 Mod	Extracted:	May-25-19 14:00	May-25-19 14:00	May-25-19 14:00	May-25-19 14:00	May-25-19 14:00	May-25-19 14:00
	Analyzed:	May-26-19 06:56	May-26-19 11:27	May-26-19 08:11	May-26-19 08:35	May-26-19 09:00	May-26-19 09:24
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		1680 74.7	1310 74.8	771 15.0	1150 15.0	737 15.0	1790 74.8
Diesel Range Organics (DRO)		10200 74.7	6970 74.8	3760 15.0	4050 15.0	4320 15.0	6190 74.8
Motor Oil Range Hydrocarbons (MRO)		3910 74.7	2370 74.8	1230 15.0	1050 15.0	1090 15.0	2330 74.8
Total TPH		15800 74.7	10700 74.8	5760 15.0	6250 15.0	6150 15.0	10300 74.8
Total GRO-DRO		11900 74.7	8280 74.8	4530 15.0	5200 15.0	5060 15.0	7980 74.8

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

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

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 624803

LT Environmental, Inc., Arvada, CO

Project Name: Big Sinks 2-24-30



Project Id:

Contact: Ashley Ager

Project Location: Delaware Basin

Date Received in Lab: Mon May-20-19 08:41 am

Report Date: 30-MAY-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	624803-007					
	Field Id:	SS07					
	Depth:	0.5- ft					
	Matrix:	SOIL					
	Sampled:	May-14-19 16:10					
BTEX by EPA 8021B	Extracted:	May-28-19 15:00					
	Analyzed:	May-28-19 19:50					
	Units/RL:	mg/kg RL					
	Benzene	<0.497 0.497					
	Toluene	6.08 0.497					
	Ethylbenzene	7.57 0.497					
	m,p-Xylenes	41.4 0.994					
	o-Xylene	16.7 0.497					
	Total Xylenes	58.1 0.497					
	Total BTEX	71.8 0.497					
Chloride by EPA 300	Extracted:	May-20-19 16:00					
	Analyzed:	May-21-19 01:23					
	Units/RL:	mg/kg RL					
	Chloride	3160 25.2					
TPH by SW8015 Mod	Extracted:	May-25-19 14:00					
	Analyzed:	May-26-19 09:49					
	Units/RL:	mg/kg RL					
	Gasoline Range Hydrocarbons (GRO)	1870 74.7					
	Diesel Range Organics (DRO)	7700 74.7					
	Motor Oil Range Hydrocarbons (MRO)	3260 74.7					
	Total TPH	12800 74.7					
	Total GRO-DRO	9570 74.7					

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

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

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 624803

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SS01** Matrix: Soil Date Received: 05.20.19 08.41
 Lab Sample Id: 624803-001 Date Collected: 05.14.19 15.40 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC % Moisture:
 Analyst: SPC Date Prep: 05.20.19 16.00 Basis: Wet Weight
 Seq Number: 3089632

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.05	5.05	mg/kg	05.21.19 01.01	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 05.25.19 14.00 Basis: Wet Weight
 Seq Number: 3090333

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	1680	74.7	mg/kg	05.26.19 06.56		5
Diesel Range Organics (DRO)	C10C28DRO	10200	74.7	mg/kg	05.26.19 06.56		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	3910	74.7	mg/kg	05.26.19 06.56		5
Total TPH	PHC635	15800	74.7	mg/kg	05.26.19 06.56		5
Total GRO-DRO	PHC628	11900	74.7	mg/kg	05.26.19 06.56		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	05.26.19 06.56	
o-Terphenyl	84-15-1	119	%	70-135	05.26.19 06.56	



Certificate of Analytical Results 624803

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SS01**
 Lab Sample Id: 624803-001

Matrix: Soil
 Date Collected: 05.14.19 15.40

Date Received: 05.20.19 08.41
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 05.28.19 15.00

Basis: Wet Weight

Seq Number: 3090390

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.499	0.499	mg/kg	05.28.19 17.55	U	250
Toluene	108-88-3	6.85	0.499	mg/kg	05.28.19 17.55		250
Ethylbenzene	100-41-4	6.19	0.499	mg/kg	05.28.19 17.55		250
m,p-Xylenes	179601-23-1	34.9	0.998	mg/kg	05.28.19 17.55		250
o-Xylene	95-47-6	13.3	0.499	mg/kg	05.28.19 17.55		250
Total Xylenes	1330-20-7	48.2	0.499	mg/kg	05.28.19 17.55		250
Total BTEX		61.2	0.499	mg/kg	05.28.19 17.55		250
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	138	%	70-130	05.28.19 17.55	**	
1,4-Difluorobenzene	540-36-3	98	%	70-130	05.28.19 17.55		



Certificate of Analytical Results 624803

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SS02** Matrix: **Soil** Date Received: 05.20.19 08.41
 Lab Sample Id: 624803-002 Date Collected: 05.14.19 15.47 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC % Moisture:
 Analyst: SPC Date Prep: 05.20.19 16.00 Basis: Wet Weight
 Seq Number: 3089632

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.9	5.02	mg/kg	05.21.19 01.08		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 05.25.19 14.00 Basis: Wet Weight
 Seq Number: 3090333

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	1310	74.8	mg/kg	05.26.19 11.27		5
Diesel Range Organics (DRO)	C10C28DRO	6970	74.8	mg/kg	05.26.19 11.27		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	2370	74.8	mg/kg	05.26.19 11.27		5
Total TPH	PHC635	10700	74.8	mg/kg	05.26.19 11.27		5
Total GRO-DRO	PHC628	8280	74.8	mg/kg	05.26.19 11.27		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	05.26.19 11.27	
o-Terphenyl	84-15-1	91	%	70-135	05.26.19 11.27	



Certificate of Analytical Results 624803

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SS02**
 Lab Sample Id: 624803-002

Matrix: Soil
 Date Collected: 05.14.19 15.47

Date Received: 05.20.19 08.41
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3090390

Date Prep: 05.28.19 15.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.496	0.496	mg/kg	05.28.19 18.14	U	250
Toluene	108-88-3	4.70	0.496	mg/kg	05.28.19 18.14		250
Ethylbenzene	100-41-4	5.03	0.496	mg/kg	05.28.19 18.14		250
m,p-Xylenes	179601-23-1	27.2	0.992	mg/kg	05.28.19 18.14		250
o-Xylene	95-47-6	10.4	0.496	mg/kg	05.28.19 18.14		250
Total Xylenes	1330-20-7	37.6	0.496	mg/kg	05.28.19 18.14		250
Total BTEX		47.3	0.496	mg/kg	05.28.19 18.14		250
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	134	%	70-130	05.28.19 18.14	**	
1,4-Difluorobenzene	540-36-3	98	%	70-130	05.28.19 18.14		



Certificate of Analytical Results 624803

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SS03** Matrix: Soil Date Received: 05.20.19 08.41
 Lab Sample Id: 624803-003 Date Collected: 05.14.19 15.49 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC % Moisture:
 Analyst: SPC Date Prep: 05.20.19 16.00 Basis: Wet Weight
 Seq Number: 3089632

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.01	5.01	mg/kg	05.21.19 01.16	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 05.25.19 14.00 Basis: Wet Weight
 Seq Number: 3090333

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	771	15.0	mg/kg	05.26.19 08.11		1
Diesel Range Organics (DRO)	C10C28DRO	3760	15.0	mg/kg	05.26.19 08.11		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	1230	15.0	mg/kg	05.26.19 08.11		1
Total TPH	PHC635	5760	15.0	mg/kg	05.26.19 08.11		1
Total GRO-DRO	PHC628	4530	15.0	mg/kg	05.26.19 08.11		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	05.26.19 08.11	
o-Terphenyl	84-15-1	153	%	70-135	05.26.19 08.11	**



Certificate of Analytical Results 624803

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SS03**
 Lab Sample Id: 624803-003

Matrix: Soil
 Date Collected: 05.14.19 15.49

Date Received: 05.20.19 08.41
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 05.28.19 15.00

Basis: Wet Weight

Seq Number: 3090390

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.502	0.502	mg/kg	05.28.19 18.33	U	250
Toluene	108-88-3	3.21	0.502	mg/kg	05.28.19 18.33		250
Ethylbenzene	100-41-4	4.50	0.502	mg/kg	05.28.19 18.33		250
m,p-Xylenes	179601-23-1	24.7	1.00	mg/kg	05.28.19 18.33		250
o-Xylene	95-47-6	9.58	0.502	mg/kg	05.28.19 18.33		250
Total Xylenes	1330-20-7	34.3	0.502	mg/kg	05.28.19 18.33		250
Total BTEX		42.0	0.502	mg/kg	05.28.19 18.33		250
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	05.28.19 18.33		
4-Bromofluorobenzene	460-00-4	139	%	70-130	05.28.19 18.33	**	



Certificate of Analytical Results 624803

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SS04** Matrix: Soil Date Received: 05.20.19 08.41
 Lab Sample Id: 624803-004 Date Collected: 05.14.19 15.51 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 05.21.19 15.15 Basis: Wet Weight
 Seq Number: 3089822

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	05.21.19 22.35	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 05.25.19 14.00 Basis: Wet Weight
 Seq Number: 3090333

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	1150	15.0	mg/kg	05.26.19 08.35		1
Diesel Range Organics (DRO)	C10C28DRO	4050	15.0	mg/kg	05.26.19 08.35		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	1050	15.0	mg/kg	05.26.19 08.35		1
Total TPH	PHC635	6250	15.0	mg/kg	05.26.19 08.35		1
Total GRO-DRO	PHC628	5200	15.0	mg/kg	05.26.19 08.35		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	125	%	70-135	05.26.19 08.35	
o-Terphenyl	84-15-1	174	%	70-135	05.26.19 08.35	**



Certificate of Analytical Results 624803

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SS04**
 Lab Sample Id: 624803-004

Matrix: Soil
 Date Collected: 05.14.19 15.51

Date Received: 05.20.19 08.41
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 05.28.19 15.00

Basis: Wet Weight

Seq Number: 3090390

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.497	0.497	mg/kg	05.28.19 18.53	U	250
Toluene	108-88-3	4.73	0.497	mg/kg	05.28.19 18.53		250
Ethylbenzene	100-41-4	5.10	0.497	mg/kg	05.28.19 18.53		250
m,p-Xylenes	179601-23-1	27.2	0.994	mg/kg	05.28.19 18.53		250
o-Xylene	95-47-6	10.4	0.497	mg/kg	05.28.19 18.53		250
Total Xylenes	1330-20-7	37.6	0.497	mg/kg	05.28.19 18.53		250
Total BTEX		47.4	0.497	mg/kg	05.28.19 18.53		250
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.28.19 18.53		
4-Bromofluorobenzene	460-00-4	141	%	70-130	05.28.19 18.53	**	



Certificate of Analytical Results 624803

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SS05** Matrix: **Soil** Date Received: 05.20.19 08.41
 Lab Sample Id: 624803-005 Date Collected: 05.14.19 15.53 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **CHE** % Moisture:
 Analyst: **CHE** Date Prep: 05.21.19 15.15 Basis: **Wet Weight**
 Seq Number: 3089822

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.97	4.97	mg/kg	05.21.19 22.56	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: **ARM** % Moisture:
 Analyst: **ARM** Date Prep: 05.25.19 14.00 Basis: **Wet Weight**
 Seq Number: 3090333

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	737	15.0	mg/kg	05.26.19 09.00		1
Diesel Range Organics (DRO)	C10C28DRO	4320	15.0	mg/kg	05.26.19 09.00		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	1090	15.0	mg/kg	05.26.19 09.00		1
Total TPH	PHC635	6150	15.0	mg/kg	05.26.19 09.00		1
Total GRO-DRO	PHC628	5060	15.0	mg/kg	05.26.19 09.00		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	05.26.19 09.00	
o-Terphenyl	84-15-1	187	%	70-135	05.26.19 09.00	**



Certificate of Analytical Results 624803

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SS05**
 Lab Sample Id: 624803-005

Matrix: Soil
 Date Collected: 05.14.19 15.53

Date Received: 05.20.19 08.41
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: SCM

Analyst: SCM

Seq Number: 3090390

Prep Method: SW5030B

% Moisture:

Date Prep: 05.28.19 15.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.504	0.504	mg/kg	05.28.19 19.12	U	250
Toluene	108-88-3	2.93	0.504	mg/kg	05.28.19 19.12		250
Ethylbenzene	100-41-4	3.53	0.504	mg/kg	05.28.19 19.12		250
m,p-Xylenes	179601-23-1	19.0	1.01	mg/kg	05.28.19 19.12		250
o-Xylene	95-47-6	7.43	0.504	mg/kg	05.28.19 19.12		250
Total Xylenes	1330-20-7	26.4	0.504	mg/kg	05.28.19 19.12		250
Total BTEX		32.9	0.504	mg/kg	05.28.19 19.12		250
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	05.28.19 19.12		
4-Bromofluorobenzene	460-00-4	132	%	70-130	05.28.19 19.12	**	



Certificate of Analytical Results 624803

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SS06** Matrix: Soil Date Received: 05.20.19 08.41
 Lab Sample Id: 624803-006 Date Collected: 05.14.19 16.00 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 05.21.19 15.15 Basis: Wet Weight
 Seq Number: 3089822

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.8	4.96	mg/kg	05.21.19 23.04		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 05.25.19 14.00 Basis: Wet Weight
 Seq Number: 3090333

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	1790	74.8	mg/kg	05.26.19 09.24		5
Diesel Range Organics (DRO)	C10C28DRO	6190	74.8	mg/kg	05.26.19 09.24		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	2330	74.8	mg/kg	05.26.19 09.24		5
Total TPH	PHC635	10300	74.8	mg/kg	05.26.19 09.24		5
Total GRO-DRO	PHC628	7980	74.8	mg/kg	05.26.19 09.24		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	05.26.19 09.24	
o-Terphenyl	84-15-1	220	%	70-135	05.26.19 09.24	**



Certificate of Analytical Results 624803

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SS06**
 Lab Sample Id: 624803-006

Matrix: Soil
 Date Collected: 05.14.19 16.00

Date Received: 05.20.19 08.41
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 05.28.19 15.00

Basis: Wet Weight

Seq Number: 3090390

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.498	0.498	mg/kg	05.28.19 19.31	U	250
Toluene	108-88-3	7.86	0.498	mg/kg	05.28.19 19.31		250
Ethylbenzene	100-41-4	8.23	0.498	mg/kg	05.28.19 19.31		250
m,p-Xylenes	179601-23-1	45.7	0.996	mg/kg	05.28.19 19.31		250
o-Xylene	95-47-6	17.9	0.498	mg/kg	05.28.19 19.31		250
Total Xylenes	1330-20-7	63.6	0.498	mg/kg	05.28.19 19.31		250
Total BTEX		79.7	0.498	mg/kg	05.28.19 19.31		250
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	157	%	70-130	05.28.19 19.31	**	
1,4-Difluorobenzene	540-36-3	99	%	70-130	05.28.19 19.31		



Certificate of Analytical Results 624803

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SS07** Matrix: Soil Date Received: 05.20.19 08.41
 Lab Sample Id: 624803-007 Date Collected: 05.14.19 16.10 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: SPC % Moisture:
 Analyst: SPC Date Prep: 05.20.19 16.00 Basis: Wet Weight
 Seq Number: 3089632

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3160	25.2	mg/kg	05.21.19 01.23		5

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: ARM % Moisture:
 Analyst: ARM Date Prep: 05.25.19 14.00 Basis: Wet Weight
 Seq Number: 3090333

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	1870	74.7	mg/kg	05.26.19 09.49		5
Diesel Range Organics (DRO)	C10C28DRO	7700	74.7	mg/kg	05.26.19 09.49		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	3260	74.7	mg/kg	05.26.19 09.49		5
Total TPH	PHC635	12800	74.7	mg/kg	05.26.19 09.49		5
Total GRO-DRO	PHC628	9570	74.7	mg/kg	05.26.19 09.49		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	05.26.19 09.49	
o-Terphenyl	84-15-1	209	%	70-135	05.26.19 09.49	**



Certificate of Analytical Results 624803

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SS07**
 Lab Sample Id: 624803-007

Matrix: Soil
 Date Collected: 05.14.19 16.10

Date Received: 05.20.19 08.41
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: SCM

% Moisture:

Analyst: SCM

Date Prep: 05.28.19 15.00

Basis: Wet Weight

Seq Number: 3090390

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.497	0.497	mg/kg	05.28.19 19.50	U	250
Toluene	108-88-3	6.08	0.497	mg/kg	05.28.19 19.50		250
Ethylbenzene	100-41-4	7.57	0.497	mg/kg	05.28.19 19.50		250
m,p-Xylenes	179601-23-1	41.4	0.994	mg/kg	05.28.19 19.50		250
o-Xylene	95-47-6	16.7	0.497	mg/kg	05.28.19 19.50		250
Total Xylenes	1330-20-7	58.1	0.497	mg/kg	05.28.19 19.50		250
Total BTEX		71.8	0.497	mg/kg	05.28.19 19.50		250
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	162	%	70-130	05.28.19 19.50	**	
1,4-Difluorobenzene	540-36-3	100	%	70-130	05.28.19 19.50		



Flagging Criteria



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

****** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

Big Sinks 2-24-30

Analytical Method: Chloride by EPA 300

Seq Number: 3089632

MB Sample Id: 7678204-1-BLK

Matrix: Solid

LCS Sample Id: 7678204-1-BKS

Prep Method: E300P

Date Prep: 05.20.19

LCSD Sample Id: 7678204-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1.81	250	254	102	250	100	90-110	2	20	mg/kg	05.20.19 23:34	

Analytical Method: Chloride by EPA 300

Seq Number: 3089822

MB Sample Id: 7678303-1-BLK

Matrix: Solid

LCS Sample Id: 7678303-1-BKS

Prep Method: E300P

Date Prep: 05.21.19

LCSD Sample Id: 7678303-1-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	238	95	239	96	90-110	0	20	mg/kg	05.21.19 22:20	

Analytical Method: Chloride by EPA 300

Seq Number: 3089632

Parent Sample Id: 624789-019

Matrix: Soil

MS Sample Id: 624789-019 S

Prep Method: E300P

Date Prep: 05.20.19

MSD Sample Id: 624789-019 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	14.1	249	249	94	251	95	90-110	1	20	mg/kg	05.20.19 23:56	

Analytical Method: Chloride by EPA 300

Seq Number: 3089632

Parent Sample Id: 624831-001

Matrix: Soil

MS Sample Id: 624831-001 S

Prep Method: E300P

Date Prep: 05.20.19

MSD Sample Id: 624831-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	106	251	363	102	358	100	90-110	1	20	mg/kg	05.21.19 01:37	

Analytical Method: Chloride by EPA 300

Seq Number: 3089822

Parent Sample Id: 624803-004

Matrix: Soil

MS Sample Id: 624803-004 S

Prep Method: E300P

Date Prep: 05.21.19

MSD Sample Id: 624803-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2.74	250	250	99	252	100	90-110	1	20	mg/kg	05.21.19 22:42	

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. = $\text{Log}(\text{Sample Duplicate}) - \text{Log}(\text{Original Sample})$

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

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



LT Environmental, Inc.

Big Sinks 2-24-30

Analytical Method: Chloride by EPA 300

Seq Number: 3089822

Parent Sample Id: 624859-006

Matrix: Soil

MS Sample Id: 624859-006 S

Prep Method: E300P

Date Prep: 05.21.19

MSD Sample Id: 624859-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	72.5	248	318	99	319	99	90-110	0	20	mg/kg	05.22.19 00:23	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3090333

MB Sample Id: 7678658-1-BLK

Matrix: Solid

LCS Sample Id: 7678658-1-BKS

Prep Method: TX1005P

Date Prep: 05.25.19

LCSD Sample Id: 7678658-1-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	1000	100	993	99	70-135	1	20	mg/kg	05.26.19 01:13	
Diesel Range Organics (DRO)	<8.13	1000	1000	100	938	94	70-135	6	20	mg/kg	05.26.19 01:13	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		102		97		70-135	%	05.26.19 01:13
o-Terphenyl	102		115		106		70-135	%	05.26.19 01:13

Analytical Method: TPH by SW8015 Mod

Seq Number: 3090333

Parent Sample Id: 624911-001

Matrix: Soil

MS Sample Id: 624911-001 S

Prep Method: TX1005P

Date Prep: 05.25.19

MSD Sample Id: 624911-001 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)	12.0	998	973	96	1030	102	70-135	6	20	mg/kg	05.26.19 02:26	
Diesel Range Organics (DRO)	26.3	998	981	96	989	96	70-135	1	20	mg/kg	05.26.19 02:26	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		98		70-135	%	05.26.19 02:26
o-Terphenyl	106		102		70-135	%	05.26.19 02:26

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

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

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

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



LT Environmental, Inc.

Big Sinks 2-24-30

Analytical Method: BTEX by EPA 8021B

Seq Number: 3090390

MB Sample Id: 7678711-1-BLK

Matrix: Solid

LCS Sample Id: 7678711-1-BKS

Prep Method: SW5030B

Date Prep: 05.28.19

LCSD Sample Id: 7678711-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000383	0.0996	0.107	107	0.120	119	70-130	11	35	mg/kg	05.28.19 15:18	
Toluene	<0.000454	0.0996	0.0996	100	0.111	110	70-130	11	35	mg/kg	05.28.19 15:18	
Ethylbenzene	<0.000563	0.0996	0.106	106	0.118	117	70-130	11	35	mg/kg	05.28.19 15:18	
m,p-Xylenes	<0.00101	0.199	0.220	111	0.246	122	70-130	11	35	mg/kg	05.28.19 15:18	
o-Xylene	<0.000343	0.0996	0.108	108	0.121	120	70-130	11	35	mg/kg	05.28.19 15:18	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		106		106		70-130	%	05.28.19 15:18
4-Bromofluorobenzene	80		94		98		70-130	%	05.28.19 15:18

Analytical Method: BTEX by EPA 8021B

Seq Number: 3090390

Parent Sample Id: 625613-001

Matrix: Soil

MS Sample Id: 625613-001 S

Prep Method: SW5030B

Date Prep: 05.28.19

MSD Sample Id: 625613-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000384	0.0998	0.110	110	0.0909	91	70-130	19	35	mg/kg	05.28.19 15:58	
Toluene	<0.000455	0.0998	0.102	102	0.0826	83	70-130	21	35	mg/kg	05.28.19 15:58	
Ethylbenzene	<0.000564	0.0998	0.109	109	0.0849	85	70-130	25	35	mg/kg	05.28.19 15:58	
m,p-Xylenes	<0.00101	0.200	0.227	114	0.174	87	70-130	26	35	mg/kg	05.28.19 15:58	
o-Xylene	0.000451	0.0998	0.110	110	0.0837	83	70-130	27	35	mg/kg	05.28.19 15:58	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		109		70-130	%	05.28.19 15:58
4-Bromofluorobenzene	100		90		70-130	%	05.28.19 15:58

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

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

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

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



Chain of Custody

Work Order No:

1041903

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 (575-382-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

www.xenco.com

Page 1 of 1

Project Manager:	Ashley Ager	Bill to: (if different)	Kyle Litrel
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:	aaager@ltenv.com rmcalfree@ltenv.com

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

Project Name:	Big Sinks 2-24-30	Turn Around		ANALYSIS REQUEST	Work Order Notes
Project Number:		Routine ☒			
P.O. Number:	2RP-5422	Rush:			
Sampler's Name:	Robert McAfee	Due Date:			
SAMPLE RECEIPT Temperature (°C): 54.5 Received Intact: Yes No Cooler Custody Seals: Yes No N/A Sample Custody Seals: Yes No N/A		Temp Blank: Yes (No)	Wet Ice: Yes (No)		
Sample Identification Matrix: S Date Sampled: 03/14/19 Time Sampled: 1540 Depth: 0.5'		Number of Containers			
		TPH (EPA 8015)			
		BTEX (EPA 0-8021)			
		Chloride (EPA 300.0)			
S501 S S502 S S503 S S504 S S505 S S506 S S507 S		TPH (EPA 8015) BTEX (EPA 0-8021) Chloride (EPA 300.0)			
		TAT starts the day received by the lab, if received by 4:30pm			
		Sample Comments			
		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 Ti Sn U V Zn
 Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U 1631 / 245.1 / 7470 / 7471 : Hg

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to 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	2	3/14/19	3/14/19	3/14/19	3/14/19
3	4	3/14/19	3/14/19	3/14/19	3/14/19
5	6	3/14/19	3/14/19	3/14/19	3/14/19



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05/20/2019 08:41:00 AM

Work Order #: 624803

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist**Comments**

#1 *Temperature of cooler(s)?	5.4
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6* Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#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:

Brianna Teel

Date: 05/20/2019

Checklist reviewed by:

Jessica Kramer

Date: 05/20/2019

Analytical Report 646053

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU Big Sinks 2-24-30

13-DEC-19

Collected By: Client



1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):

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

Xenco-Dallas (EPA Lab Code: TX01468):

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

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

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

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

Xenco-Carlsbad (LELAP): Louisiana (05092)

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

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

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



13-DEC-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **646053**

PLU Big Sinks 2-24-30

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) 646053. 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. 646053 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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

**Sample Cross Reference 646053****LT Environmental, Inc., Arvada, CO**

PLU Big Sinks 2-24-30

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	12-11-19 11:40	3 ft	646053-001
FS02	S	12-11-19 11:50	3 ft	646053-002
FS03	S	12-11-19 11:55	3 ft	646053-003
FS04	S	12-11-19 12:00	3 ft	646053-004
FS05	S	12-11-19 12:05	3 ft	646053-005
FS06	S	12-11-19 13:15	2 ft	646053-006
FS07	S	12-11-19 13:20	2 ft	646053-007
FS08	S	12-11-19 13:25	2 ft	646053-008
FS09	S	12-11-19 13:35	2 ft	646053-009
FS10	S	12-11-19 13:40	2 ft	646053-010
FS11	S	12-11-19 15:10	2 ft	646053-011
FS12	S	12-11-19 15:15	2 ft	646053-012



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU Big Sinks 2-24-30

Project ID:

Work Order Number(s): 646053

Report Date: 13-DEC-19

Date Received: 12/12/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3110350 BTEX by EPA 8021B

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

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

Samples affected are 646053-011.



Certificate of Analysis Summary 646053

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 2-24-30

Project Id:

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu Dec-12-19 09:00 am

Report Date: 13-DEC-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	646053-001	646053-002	646053-003	646053-004	646053-005	646053-006
	<i>Field Id:</i>	FS01	FS02	FS03	FS04	FS05	FS06
	<i>Depth:</i>	3- ft	3- ft	3- ft	3- ft	3- ft	2- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Dec-11-19 11:40	Dec-11-19 11:50	Dec-11-19 11:55	Dec-11-19 12:00	Dec-11-19 12:05	Dec-11-19 13:15
BTEX by EPA 8021B	<i>Extracted:</i>	Dec-12-19 10:00	Dec-12-19 10:00	Dec-12-19 10:00	Dec-12-19 10:00	Dec-12-19 10:00	Dec-12-19 10:00
	<i>Analyzed:</i>	Dec-12-19 16:43	Dec-12-19 17:01	Dec-12-19 17:18	Dec-12-19 20:46	Dec-12-19 17:35	Dec-12-19 21:03
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00198 0.00198	<0.00201 0.00201	<0.00201 0.00201	<0.00199 0.00199	<0.0200 0.0200
Toluene		<0.00199 0.00199	<0.00198 0.00198	0.00259 0.00201	0.00728 0.00201	0.00257 0.00199	<0.0200 0.0200
Ethylbenzene		<0.00199 0.00199	<0.00198 0.00198	0.0273 0.00201	0.0331 0.00201	<0.00199 0.00199	0.144 0.0200
m,p-Xylenes		<0.00398 0.00398	<0.00396 0.00396	0.0278 0.00402	0.0683 0.00402	<0.00398 0.00398	0.126 0.0400
o-Xylene		<0.00199 0.00199	<0.00198 0.00198	0.0292 0.00201	0.0391 0.00201	0.0126 0.00199	0.145 0.0200
Total Xylenes		<0.00199 0.00199	<0.00198 0.00198	0.0570 0.00201	0.107 0.00201	0.0126 0.00199	0.271 0.0200
Total BTEX		<0.00199 0.00199	<0.00198 0.00198	0.0869 0.00201	0.148 0.00201	0.0152 0.00199	0.415 0.0200
Chloride by EPA 300	<i>Extracted:</i>	Dec-12-19 11:35	Dec-12-19 11:35	Dec-12-19 11:35	Dec-12-19 11:35	Dec-12-19 11:35	Dec-12-19 11:35
	<i>Analyzed:</i>	Dec-12-19 12:25	Dec-12-19 12:42	Dec-12-19 12:54	Dec-12-19 13:00	Dec-12-19 13:06	Dec-12-19 13:24
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		527 10.0	109 9.98	113 9.94	73.0 10.1	227 10.0	44.7 9.98
TPH by SW8015 Mod	<i>Extracted:</i>	Dec-12-19 11:30	Dec-12-19 11:30	Dec-12-19 11:30	Dec-12-19 11:30	Dec-12-19 11:30	Dec-12-19 11:30
	<i>Analyzed:</i>	Dec-12-19 15:45	Dec-12-19 15:45	Dec-12-19 16:05	Dec-12-19 16:05	Dec-12-19 16:25	Dec-12-19 16:45
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.3 50.3	<50.0 50.0	62.4 49.9	149 50.3	<50.3 50.3	109 50.2
Diesel Range Organics (DRO)		154 50.3	231 50.0	1390 49.9	2050 50.3	138 50.3	1120 50.2
Motor Oil Range Hydrocarbons (MRO)		<50.3 50.3	<50.0 50.0	121 49.9	173 50.3	<50.3 50.3	102 50.2
Total GRO-DRO		154 50.3	231 50.0	1450 49.9	2200 50.3	138 50.3	1230 50.2
Total TPH		154 50.3	231 50.0	1570 49.9	2370 50.3	138 50.3	1330 50.2

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

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

Version: 1.9%

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 646053

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 2-24-30

Project Id:

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu Dec-12-19 09:00 am

Report Date: 13-DEC-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	646053-007	646053-008	646053-009	646053-010	646053-011	646053-012
	Field Id:	FS07	FS08	FS09	FS10	FS11	FS12
	Depth:	2- ft	2- ft	2- ft	2- ft	2- ft	2- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Dec-11-19 13:20	Dec-11-19 13:25	Dec-11-19 13:35	Dec-11-19 13:40	Dec-11-19 15:10	Dec-11-19 15:15
BTEX by EPA 8021B	Extracted:	Dec-12-19 10:00	Dec-12-19 10:00	Dec-12-19 10:00	Dec-12-19 10:00	Dec-12-19 10:00	Dec-12-19 10:00
	Analyzed:	Dec-12-19 19:19	Dec-12-19 19:36	Dec-12-19 19:53	Dec-12-19 21:20	Dec-12-19 21:38	Dec-12-19 21:55
	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	<0.00198 0.00198	<0.00201 0.00201	<0.00201 0.00201	<0.0200 0.0200	<0.0385 0.0385
Toluene		<0.00201 0.00201	<0.00198 0.00198	<0.00201 0.00201	0.00270 0.00201	0.444 0.0200	<0.0385 0.0385
Ethylbenzene		<0.00201 0.00201	<0.00198 0.00198	<0.00201 0.00201	0.0145 0.00201	0.965 0.0200	<0.0385 0.0385
m,p-Xylenes		<0.00402 0.00402	<0.00397 0.00397	<0.00402 0.00402	0.0403 0.00402	4.73 0.0400	0.0958 0.0769
o-Xylene		0.00235 0.00201	<0.00198 0.00198	<0.00201 0.00201	0.0499 0.00201	2.91 0.0200	0.131 0.0385
Total Xylenes		0.00235 0.00201	<0.00198 0.00198	<0.00201 0.00201	0.0902 0.00201	7.64 0.0200	0.227 0.0385
Total BTEX		0.00235 0.00201	<0.00198 0.00198	<0.00201 0.00201	0.107 0.00201	9.05 0.0200	0.227 0.0385
Chloride by EPA 300	Extracted:	Dec-12-19 11:35	Dec-12-19 11:35	Dec-12-19 11:35	Dec-12-19 11:35	Dec-12-19 11:35	Dec-12-19 11:35
	Analyzed:	Dec-12-19 13:29	Dec-12-19 13:35	Dec-12-19 13:41	Dec-12-19 13:47	Dec-12-19 13:53	Dec-12-19 14:12
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		11.5 9.94	<9.98 9.98	<9.94 9.94	43.3 10.0	<10.1 10.1	<9.98 9.98
TPH by SW8015 Mod	Extracted:	Dec-12-19 11:30	Dec-12-19 11:30	Dec-12-19 11:30	Dec-12-19 11:30	Dec-12-19 11:30	Dec-12-19 11:30
	Analyzed:	Dec-12-19 16:45	Dec-12-19 17:05	Dec-12-19 17:05	Dec-12-19 17:24	Dec-12-19 17:24	Dec-12-19 17:44
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	<49.9 49.9	<50.1 50.1	82.9 50.1	796 50.3	<50.2 50.2
Diesel Range Organics (DRO)		124 50.2	62.6 49.9	<50.1 50.1	694 50.1	4180 50.3	545 50.2
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<49.9 49.9	<50.1 50.1	52.4 50.1	324 50.3	<50.2 50.2
Total GRO-DRO		124 50.2	62.6 49.9	<50.1 50.1	777 50.1	4980 50.3	545 50.2
Total TPH		124 50.2	62.6 49.9	<50.1 50.1	829 50.1	5300 50.3	545 50.2

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

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

Version: 1.9%

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 646053

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS01**
Lab Sample Id: 646053-001

Matrix: Soil
Date Collected: 12.11.19 11.40

Date Received: 12.12.19 09.00
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110315

Date Prep: 12.12.19 11.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	527	10.0	mg/kg	12.12.19 12.25		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110368

Date Prep: 12.12.19 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.12.19 15.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	154	50.3	mg/kg	12.12.19 15.45		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.12.19 15.45	U	1
Total GRO-DRO	PHC628	154	50.3	mg/kg	12.12.19 15.45		1
Total TPH	PHC635	154	50.3	mg/kg	12.12.19 15.45		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	12.12.19 15.45	
o-Terphenyl	84-15-1	108	%	70-135	12.12.19 15.45	



Certificate of Analytical Results 646053

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS01**
Lab Sample Id: 646053-001

Matrix: Soil
Date Collected: 12.11.19 11.40

Date Received: 12.12.19 09.00
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.12.19 10.00

Basis: Wet Weight

Seq Number: 3110350

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.12.19 16.43	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.12.19 16.43	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.12.19 16.43	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.12.19 16.43	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.12.19 16.43	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.12.19 16.43	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.12.19 16.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	12.12.19 16.43		
1,4-Difluorobenzene	540-36-3	97	%	70-130	12.12.19 16.43		



Certificate of Analytical Results 646053

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS02**
Lab Sample Id: 646053-002

Matrix: Soil
Date Collected: 12.11.19 11.50

Date Received: 12.12.19 09.00
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110315

Date Prep: 12.12.19 11.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	109	9.98	mg/kg	12.12.19 12.42		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110368

Date Prep: 12.12.19 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.12.19 15.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	231	50.0	mg/kg	12.12.19 15.45		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.12.19 15.45	U	1
Total GRO-DRO	PHC628	231	50.0	mg/kg	12.12.19 15.45		1
Total TPH	PHC635	231	50.0	mg/kg	12.12.19 15.45		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	12.12.19 15.45	
o-Terphenyl	84-15-1	114	%	70-135	12.12.19 15.45	



Certificate of Analytical Results 646053

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS02**
Lab Sample Id: 646053-002

Matrix: Soil
Date Collected: 12.11.19 11.50

Date Received: 12.12.19 09.00
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.12.19 10.00

Basis: Wet Weight

Seq Number: 3110350

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.12.19 17.01	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.12.19 17.01	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.12.19 17.01	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.12.19 17.01	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.12.19 17.01	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.12.19 17.01	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.12.19 17.01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.12.19 17.01		
4-Bromofluorobenzene	460-00-4	114	%	70-130	12.12.19 17.01		



Certificate of Analytical Results 646053

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS03**
Lab Sample Id: 646053-003

Matrix: Soil
Date Collected: 12.11.19 11.55

Date Received: 12.12.19 09.00
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110315

Date Prep: 12.12.19 11.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	113	9.94	mg/kg	12.12.19 12.54		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110368

Date Prep: 12.12.19 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	62.4	49.9	mg/kg	12.12.19 16.05		1
Diesel Range Organics (DRO)	C10C28DRO	1390	49.9	mg/kg	12.12.19 16.05		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	121	49.9	mg/kg	12.12.19 16.05		1
Total GRO-DRO	PHC628	1450	49.9	mg/kg	12.12.19 16.05		1
Total TPH	PHC635	1570	49.9	mg/kg	12.12.19 16.05		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	12.12.19 16.05	
o-Terphenyl	84-15-1	125	%	70-135	12.12.19 16.05	



Certificate of Analytical Results 646053

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS03**
Lab Sample Id: 646053-003

Matrix: Soil
Date Collected: 12.11.19 11.55

Date Received: 12.12.19 09.00
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.12.19 10.00

Basis: Wet Weight

Seq Number: 3110350

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.12.19 17.18	U	1
Toluene	108-88-3	0.00259	0.00201	mg/kg	12.12.19 17.18		1
Ethylbenzene	100-41-4	0.0273	0.00201	mg/kg	12.12.19 17.18		1
m,p-Xylenes	179601-23-1	0.0278	0.00402	mg/kg	12.12.19 17.18		1
o-Xylene	95-47-6	0.0292	0.00201	mg/kg	12.12.19 17.18		1
Total Xylenes	1330-20-7	0.0570	0.00201	mg/kg	12.12.19 17.18		1
Total BTEX		0.0869	0.00201	mg/kg	12.12.19 17.18		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	95	%	70-130	12.12.19 17.18		
4-Bromofluorobenzene	460-00-4	99	%	70-130	12.12.19 17.18		



Certificate of Analytical Results 646053

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS04**
Lab Sample Id: 646053-004

Matrix: Soil
Date Collected: 12.11.19 12.00

Date Received: 12.12.19 09.00
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110315

Date Prep: 12.12.19 11.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	73.0	10.1	mg/kg	12.12.19 13.00		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110368

Date Prep: 12.12.19 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	149	50.3	mg/kg	12.12.19 16.05		1
Diesel Range Organics (DRO)	C10C28DRO	2050	50.3	mg/kg	12.12.19 16.05		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	173	50.3	mg/kg	12.12.19 16.05		1
Total GRO-DRO	PHC628	2200	50.3	mg/kg	12.12.19 16.05		1
Total TPH	PHC635	2370	50.3	mg/kg	12.12.19 16.05		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	12.12.19 16.05	
o-Terphenyl	84-15-1	124	%	70-135	12.12.19 16.05	



Certificate of Analytical Results 646053

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS04**
Lab Sample Id: 646053-004

Matrix: Soil
Date Collected: 12.11.19 12.00

Date Received: 12.12.19 09.00
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.12.19 10.00

Basis: Wet Weight

Seq Number: 3110350

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.12.19 20.46	U	1
Toluene	108-88-3	0.00728	0.00201	mg/kg	12.12.19 20.46		1
Ethylbenzene	100-41-4	0.0331	0.00201	mg/kg	12.12.19 20.46		1
m,p-Xylenes	179601-23-1	0.0683	0.00402	mg/kg	12.12.19 20.46		1
o-Xylene	95-47-6	0.0391	0.00201	mg/kg	12.12.19 20.46		1
Total Xylenes	1330-20-7	0.107	0.00201	mg/kg	12.12.19 20.46		1
Total BTEX		0.148	0.00201	mg/kg	12.12.19 20.46		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	125	%	70-130	12.12.19 20.46		
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.12.19 20.46		



Certificate of Analytical Results 646053

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS05**
Lab Sample Id: 646053-005

Matrix: Soil
Date Collected: 12.11.19 12.05

Date Received: 12.12.19 09.00
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110315

Date Prep: 12.12.19 11.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	227	10.0	mg/kg	12.12.19 13.06		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110368

Date Prep: 12.12.19 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.12.19 16.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	138	50.3	mg/kg	12.12.19 16.25		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.12.19 16.25	U	1
Total GRO-DRO	PHC628	138	50.3	mg/kg	12.12.19 16.25		1
Total TPH	PHC635	138	50.3	mg/kg	12.12.19 16.25		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	12.12.19 16.25	
o-Terphenyl	84-15-1	118	%	70-135	12.12.19 16.25	



Certificate of Analytical Results 646053

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS05**
Lab Sample Id: 646053-005

Matrix: Soil
Date Collected: 12.11.19 12.05

Date Received: 12.12.19 09.00
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.12.19 10.00

Basis: Wet Weight

Seq Number: 3110350

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.12.19 17.35	U	1
Toluene	108-88-3	0.00257	0.00199	mg/kg	12.12.19 17.35		1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.12.19 17.35	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.12.19 17.35	U	1
o-Xylene	95-47-6	0.0126	0.00199	mg/kg	12.12.19 17.35		1
Total Xylenes	1330-20-7	0.0126	0.00199	mg/kg	12.12.19 17.35		1
Total BTEX		0.0152	0.00199	mg/kg	12.12.19 17.35		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.12.19 17.35		
4-Bromofluorobenzene	460-00-4	128	%	70-130	12.12.19 17.35		



Certificate of Analytical Results 646053

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS06**
Lab Sample Id: 646053-006

Matrix: Soil
Date Collected: 12.11.19 13.15

Date Received: 12.12.19 09.00
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110315

Date Prep: 12.12.19 11.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	44.7	9.98	mg/kg	12.12.19 13.24		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110368

Date Prep: 12.12.19 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	109	50.2	mg/kg	12.12.19 16.45		1
Diesel Range Organics (DRO)	C10C28DRO	1120	50.2	mg/kg	12.12.19 16.45		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	102	50.2	mg/kg	12.12.19 16.45		1
Total GRO-DRO	PHC628	1230	50.2	mg/kg	12.12.19 16.45		1
Total TPH	PHC635	1330	50.2	mg/kg	12.12.19 16.45		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	12.12.19 16.45	
o-Terphenyl	84-15-1	114	%	70-135	12.12.19 16.45	



Certificate of Analytical Results 646053

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS06**
Lab Sample Id: 646053-006

Matrix: Soil
Date Collected: 12.11.19 13.15

Date Received: 12.12.19 09.00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.12.19 10.00

Basis: Wet Weight

Seq Number: 3110350

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	12.12.19 21.03	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	12.12.19 21.03	U	1
Ethylbenzene	100-41-4	0.144	0.0200	mg/kg	12.12.19 21.03		1
m,p-Xylenes	179601-23-1	0.126	0.0400	mg/kg	12.12.19 21.03		1
o-Xylene	95-47-6	0.145	0.0200	mg/kg	12.12.19 21.03		1
Total Xylenes	1330-20-7	0.271	0.0200	mg/kg	12.12.19 21.03		1
Total BTEX		0.415	0.0200	mg/kg	12.12.19 21.03		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114		%	70-130	12.12.19 21.03	
1,4-Difluorobenzene	540-36-3	99		%	70-130	12.12.19 21.03	



Certificate of Analytical Results 646053

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS07**
Lab Sample Id: 646053-007

Matrix: Soil
Date Collected: 12.11.19 13.20

Date Received: 12.12.19 09.00
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110315

Date Prep: 12.12.19 11.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.5	9.94	mg/kg	12.12.19 13.29		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110368

Date Prep: 12.12.19 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.12.19 16.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	124	50.2	mg/kg	12.12.19 16.45		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.12.19 16.45	U	1
Total GRO-DRO	PHC628	124	50.2	mg/kg	12.12.19 16.45		1
Total TPH	PHC635	124	50.2	mg/kg	12.12.19 16.45		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	12.12.19 16.45	
o-Terphenyl	84-15-1	118	%	70-135	12.12.19 16.45	



Certificate of Analytical Results 646053

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS07**
Lab Sample Id: 646053-007

Matrix: Soil
Date Collected: 12.11.19 13.20

Date Received: 12.12.19 09.00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.12.19 10.00

Basis: Wet Weight

Seq Number: 3110350

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.12.19 19.19	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.12.19 19.19	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.12.19 19.19	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.12.19 19.19	U	1
o-Xylene	95-47-6	0.00235	0.00201	mg/kg	12.12.19 19.19		1
Total Xylenes	1330-20-7	0.00235	0.00201	mg/kg	12.12.19 19.19		1
Total BTEX		0.00235	0.00201	mg/kg	12.12.19 19.19		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	12.12.19 19.19		
1,4-Difluorobenzene	540-36-3	97	%	70-130	12.12.19 19.19		



Certificate of Analytical Results 646053

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS08**
Lab Sample Id: 646053-008

Matrix: Soil
Date Collected: 12.11.19 13.25

Date Received: 12.12.19 09.00
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110315

Date Prep: 12.12.19 11.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	12.12.19 13.35	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110368

Date Prep: 12.12.19 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.12.19 17.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	62.6	49.9	mg/kg	12.12.19 17.05		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.12.19 17.05	U	1
Total GRO-DRO	PHC628	62.6	49.9	mg/kg	12.12.19 17.05		1
Total TPH	PHC635	62.6	49.9	mg/kg	12.12.19 17.05		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	12.12.19 17.05	
o-Terphenyl	84-15-1	108	%	70-135	12.12.19 17.05	



Certificate of Analytical Results 646053

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS08**
Lab Sample Id: 646053-008

Matrix: Soil
Date Collected: 12.11.19 13.25

Date Received: 12.12.19 09.00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.12.19 10.00

Basis: Wet Weight

Seq Number: 3110350

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.12.19 19.36	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.12.19 19.36	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.12.19 19.36	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.12.19 19.36	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.12.19 19.36	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.12.19 19.36	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.12.19 19.36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	12.12.19 19.36		
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.12.19 19.36		



Certificate of Analytical Results 646053

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS09**
Lab Sample Id: 646053-009

Matrix: Soil
Date Collected: 12.11.19 13.35

Date Received: 12.12.19 09.00
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110315

Date Prep: 12.12.19 11.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.94	9.94	mg/kg	12.12.19 13.41	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110368

Date Prep: 12.12.19 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.12.19 17.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.12.19 17.05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.12.19 17.05	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	12.12.19 17.05	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.12.19 17.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	12.12.19 17.05	
o-Terphenyl	84-15-1	111	%	70-135	12.12.19 17.05	



Certificate of Analytical Results 646053

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS09**
Lab Sample Id: 646053-009

Matrix: Soil
Date Collected: 12.11.19 13.35

Date Received: 12.12.19 09.00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3110350

Prep Method: SW5030B

% Moisture:

Date Prep: 12.12.19 10.00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.12.19 19.53	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.12.19 19.53	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.12.19 19.53	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.12.19 19.53	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.12.19 19.53	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.12.19 19.53	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.12.19 19.53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	12.12.19 19.53		
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.12.19 19.53		



Certificate of Analytical Results 646053

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS10**
Lab Sample Id: 646053-010

Matrix: Soil
Date Collected: 12.11.19 13.40

Date Received: 12.12.19 09.00
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110315

Date Prep: 12.12.19 11.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	43.3	10.0	mg/kg	12.12.19 13.47		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110368

Date Prep: 12.12.19 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	82.9	50.1	mg/kg	12.12.19 17.24		1
Diesel Range Organics (DRO)	C10C28DRO	694	50.1	mg/kg	12.12.19 17.24		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	52.4	50.1	mg/kg	12.12.19 17.24		1
Total GRO-DRO	PHC628	777	50.1	mg/kg	12.12.19 17.24		1
Total TPH	PHC635	829	50.1	mg/kg	12.12.19 17.24		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	12.12.19 17.24	
o-Terphenyl	84-15-1	116	%	70-135	12.12.19 17.24	



Certificate of Analytical Results 646053

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS10**
Lab Sample Id: 646053-010

Matrix: Soil
Date Collected: 12.11.19 13.40

Date Received: 12.12.19 09.00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.12.19 10.00

Basis: Wet Weight

Seq Number: 3110350

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.12.19 21.20	U	1
Toluene	108-88-3	0.00270	0.00201	mg/kg	12.12.19 21.20		1
Ethylbenzene	100-41-4	0.0145	0.00201	mg/kg	12.12.19 21.20		1
m,p-Xylenes	179601-23-1	0.0403	0.00402	mg/kg	12.12.19 21.20		1
o-Xylene	95-47-6	0.0499	0.00201	mg/kg	12.12.19 21.20		1
Total Xylenes	1330-20-7	0.0902	0.00201	mg/kg	12.12.19 21.20		1
Total BTEX		0.107	0.00201	mg/kg	12.12.19 21.20		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	129	%	70-130	12.12.19 21.20		
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.12.19 21.20		



Certificate of Analytical Results 646053

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS11**
Lab Sample Id: 646053-011

Matrix: Soil
Date Collected: 12.11.19 15.10

Date Received: 12.12.19 09.00
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110315

Date Prep: 12.12.19 11.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	12.12.19 13.53	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110368

Date Prep: 12.12.19 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	796	50.3	mg/kg	12.12.19 17.24		1
Diesel Range Organics (DRO)	C10C28DRO	4180	50.3	mg/kg	12.12.19 17.24		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	324	50.3	mg/kg	12.12.19 17.24		1
Total GRO-DRO	PHC628	4980	50.3	mg/kg	12.12.19 17.24		1
Total TPH	PHC635	5300	50.3	mg/kg	12.12.19 17.24		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	12.12.19 17.24	
o-Terphenyl	84-15-1	112	%	70-135	12.12.19 17.24	



Certificate of Analytical Results 646053

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS11**
Lab Sample Id: 646053-011

Matrix: Soil
Date Collected: 12.11.19 15.10

Date Received: 12.12.19 09.00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.12.19 10.00

Basis: Wet Weight

Seq Number: 3110350

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	12.12.19 21.38	U	1
Toluene	108-88-3	0.444	0.0200	mg/kg	12.12.19 21.38		1
Ethylbenzene	100-41-4	0.965	0.0200	mg/kg	12.12.19 21.38		1
m,p-Xylenes	179601-23-1	4.73	0.0400	mg/kg	12.12.19 21.38		1
o-Xylene	95-47-6	2.91	0.0200	mg/kg	12.12.19 21.38		1
Total Xylenes	1330-20-7	7.64	0.0200	mg/kg	12.12.19 21.38		1
Total BTEX		9.05	0.0200	mg/kg	12.12.19 21.38		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	141	%	70-130	12.12.19 21.38	**	
1,4-Difluorobenzene	540-36-3	96	%	70-130	12.12.19 21.38		



Certificate of Analytical Results 646053

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: FS12
Lab Sample Id: 646053-012

Matrix: Soil
Date Collected: 12.11.19 15.15

Date Received: 12.12.19 09.00
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3110315

Date Prep: 12.12.19 11.35

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	12.12.19 14.12	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3110368

Date Prep: 12.12.19 11.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.12.19 17.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	545	50.2	mg/kg	12.12.19 17.44		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.12.19 17.44	U	1
Total GRO-DRO	PHC628	545	50.2	mg/kg	12.12.19 17.44		1
Total TPH	PHC635	545	50.2	mg/kg	12.12.19 17.44		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	12.12.19 17.44	
o-Terphenyl	84-15-1	108	%	70-135	12.12.19 17.44	



Certificate of Analytical Results 646053

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS12**
Lab Sample Id: 646053-012

Matrix: Soil
Date Collected: 12.11.19 15.15

Date Received: 12.12.19 09.00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 12.12.19 10.00

Basis: Wet Weight

Seq Number: 3110350

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0385	0.0385	mg/kg	12.12.19 21.55	U	1
Toluene	108-88-3	<0.0385	0.0385	mg/kg	12.12.19 21.55	U	1
Ethylbenzene	100-41-4	<0.0385	0.0385	mg/kg	12.12.19 21.55	U	1
m,p-Xylenes	179601-23-1	0.0958	0.0769	mg/kg	12.12.19 21.55		1
o-Xylene	95-47-6	0.131	0.0385	mg/kg	12.12.19 21.55		1
Total Xylenes	1330-20-7	0.227	0.0385	mg/kg	12.12.19 21.55		1
Total BTEX		0.227	0.0385	mg/kg	12.12.19 21.55		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	129	%	70-130	12.12.19 21.55		
1,4-Difluorobenzene	540-36-3	95	%	70-130	12.12.19 21.55		



Flagging Criteria

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

****** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU Big Sinks 2-24-30

Analytical Method: Chloride by EPA 300

Seq Number: 3110315

MB Sample Id: 7692282-1-BLK

Matrix: Solid

LCS Sample Id: 7692282-1-BKS

Prep Method: E300P

Date Prep: 12.12.19

LCSD Sample Id: 7692282-1-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	264	106	264	106	90-110	0	20	mg/kg	12.12.19 12:14	

Analytical Method: Chloride by EPA 300

Seq Number: 3110315

Parent Sample Id: 646053-001

Matrix: Soil

MS Sample Id: 646053-001 S

Prep Method: E300P

Date Prep: 12.12.19

MSD Sample Id: 646053-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	527	202	745	108	738	106	90-110	1	20	mg/kg	12.12.19 12:31	

Analytical Method: Chloride by EPA 300

Seq Number: 3110315

Parent Sample Id: 646053-011

Matrix: Soil

MS Sample Id: 646053-011 S

Prep Method: E300P

Date Prep: 12.12.19

MSD Sample Id: 646053-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	4.83	202	209	101	208	102	90-110	0	20	mg/kg	12.12.19 13:59	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3110368

MB Sample Id: 7692325-1-BLK

Matrix: Solid

LCS Sample Id: 7692325-1-BKS

Prep Method: SW8015P

Date Prep: 12.12.19

LCSD Sample Id: 7692325-1-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	1040	104	981	98	70-135	6	35	mg/kg	12.12.19 12:22	
Diesel Range Organics (DRO)	<50.0	1000	864	86	1040	104	70-135	18	35	mg/kg	12.12.19 12:22	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		105		119		70-135	%	12.12.19 12:22
o-Terphenyl	107		99		119		70-135	%	12.12.19 12:22

Analytical Method: TPH by SW8015 Mod

Seq Number: 3110368

Matrix: Solid

MB Sample Id: 7692325-1-BLK

Prep Method: SW8015P

Date Prep: 12.12.19

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.12.19 12:02	

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

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

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

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



LT Environmental, Inc.

PLU Big Sinks 2-24-30

Analytical Method: TPH by SW8015 Mod

Seq Number: 3110368

Parent Sample Id: 646008-001

Matrix: Soil

MS Sample Id: 646008-001 S

Prep Method: SW8015P

Date Prep: 12.12.19

MSD Sample Id: 646008-001 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	980	98	1060	106	70-135	8	35	mg/kg	12.13.19 08:13	
Diesel Range Organics (DRO)	<50.1	1000	880	88	1130	113	70-135	25	35	mg/kg	12.13.19 08:13	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		128		70-135	%	12.13.19 08:13
o-Terphenyl	99		120		70-135	%	12.13.19 08:13

Analytical Method: BTEX by EPA 8021B

Seq Number: 3110350

MB Sample Id: 7692258-1-BLK

Matrix: Solid

LCS Sample Id: 7692258-1-BKS

Prep Method: SW5030B

Date Prep: 12.12.19

LCSD Sample Id: 7692258-1-BSO

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	0.106	106	0.103	103	70-130	3	35	mg/kg	12.12.19 11:14	
Toluene	<0.00200	0.100	0.106	106	0.103	103	70-130	3	35	mg/kg	12.12.19 11:14	
Ethylbenzene	<0.00200	0.100	0.105	105	0.102	102	71-129	3	35	mg/kg	12.12.19 11:14	
m,p-Xylenes	<0.00400	0.200	0.218	109	0.212	106	70-135	3	35	mg/kg	12.12.19 11:14	
o-Xylene	<0.00200	0.100	0.105	105	0.103	103	71-133	2	35	mg/kg	12.12.19 11:14	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		100		101		70-130	%	12.12.19 11:14
4-Bromofluorobenzene	97		97		101		70-130	%	12.12.19 11:14

Analytical Method: BTEX by EPA 8021B

Seq Number: 3110350

Parent Sample Id: 646036-006

Matrix: Soil

MS Sample Id: 646036-006 S

Prep Method: SW5030B

Date Prep: 12.12.19

MSD Sample Id: 646036-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0401	2.00	2.15	108	1.52	79	70-130	34	35	mg/kg	12.12.19 22:47	
Toluene	0.0206	2.00	2.08	103	1.54	79	70-130	30	35	mg/kg	12.12.19 22:47	
Ethylbenzene	0.169	2.00	2.22	103	1.71	80	71-129	26	35	mg/kg	12.12.19 22:47	
m,p-Xylenes	0.612	4.01	5.48	121	3.94	86	70-135	33	35	mg/kg	12.12.19 22:47	
o-Xylene	0.160	2.00	2.63	124	2.21	106	71-133	17	35	mg/kg	12.12.19 22:47	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		97		70-130	%	12.12.19 22:47
4-Bromofluorobenzene	113		126		70-130	%	12.12.19 22:47

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

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

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

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



Chain of Custody

Work Order No: 634053

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 2

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Little
Company Name:	LI 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@lienv.com mcafee@lienv.com

Project Name:	PU By Sinks 2-24-30	Turn Around	☐ Routine ☒ Rush: 3 day
Project Number:			
P.O. Number:	2RP-5472		
Sampler's Name:	Robert McAfee	Due Date:	

Temp Blank:	Yes ☒ No ☐	Wet Ice:	Yes ☒ No ☐
Temperature (°C):	0.8	Thermometer ID	TNMD01
Received Intact:	Yes ☒ No ☐	Correction Factor:	-0.2
Cooler Custody Seals:	Yes ☒ No ☐	Total Containers:	12
Sample Custody Seals:	Yes ☒ No ☐		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	ANALYSIS REQUEST											Work Order Notes
					Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)								
FS01	S	12/11/19	1140	3'	1	X	X	X								TAT starts the day received by the lab, if received by 4:30pm Sample Comments Composite
FS02			1150	3'		X	X	X								
FS03			1155	3'		X	X	X								
FS04			1200	3'		X	X	X								
FS05			1205	3'		X	X	X								
FS06			1315	2'		X	X	X								
FS07			1320	2'		X	X	X								
FS08			1325	2'		X	X	X								
FS09			1335	2'		X	X	X								
FS10			1340	2'		X	X	X								

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

Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	12/12/19 09:00			



Chain of Custody

Work Order No: 036053

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 2 of 2

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Little
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 mmcatee@ltenv.com

Program: ☐ UST/ST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund State of Project:	
Reporting Level II ☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV ☐	Deliverables: EDD ☐ ADAPT ☐ Other:

Project Name:	PLU Big Stick 2-24-30	Turn Around	☐ Routine ☐ Rush: 3 day
Project Number:	28P-5122	Rush:	3 day
P.O. Number:		Due Date:	
Sampler's Name:	Robert McAfee		

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EPA 8015)	BTEX (EPA 0-8021)	Chloride (EPA 300.0)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
-----------------------	--------	--------------	--------------	-------	--------	----------------	-------------------	----------------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	12/12/19 09:00			



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

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

Work Order #: 646053

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 12/12/2019

Checklist reviewed by:

Jessica Kramer

Date: 12/13/2019

Analytical Report 648059

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU Big Sinks 2-24-30

08-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)



08-JAN-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **648059**

PLU Big Sinks 2-24-30

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) 648059. 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. 648059 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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



Sample Cross Reference 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS13	S	01-02-20 09:20	2.5 ft	648059-001
FS14	S	01-02-20 09:25	3 ft	648059-002
FS15	S	01-02-20 09:30	4 ft	648059-003
FS16	S	01-02-20 09:35	4 ft	648059-004
FS17	S	01-02-20 09:40	3 ft	648059-005
FS18	S	01-02-20 09:50	3 ft	648059-006
FS19	S	01-02-20 09:45	4 ft	648059-007
FS20	S	01-02-20 10:10	3 ft	648059-008
FS21	S	01-02-20 10:15	4 ft	648059-009
FS22	S	01-02-20 10:20	4 ft	648059-010
FS23	S	01-02-20 10:25	4 ft	648059-011
FS24	S	01-02-20 10:30	3.5 ft	648059-012
SW01	S	01-02-20 15:20	0 - 3 ft	648059-013
SW02	S	01-02-20 15:25	0 - 3 ft	648059-014
SW03	S	01-02-20 15:30	0 - 2 ft	648059-015
SW04	S	01-02-20 15:35	0 - 2 ft	648059-016
SW05	S	01-02-20 15:55	0 - 2 ft	648059-017
SW06	S	01-02-20 16:05	0 - 2.5 ft	648059-018
FS03A	S	01-02-20 15:00	3.5 ft	648059-019
FS04A	S	01-02-20 15:10	3.5 ft	648059-020
FS06A	S	01-02-20 15:05	3.5 ft	648059-021

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: PLU Big Sinks 2-24-30**

Project ID:
Work Order Number(s): 648059

Report Date: 08-JAN-20
Date Received: 01/07/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3112556 TPH by SW8015 Mod

Lab Sample ID 648059-005 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Diesel Range Organics (DRO) recovered below QC limits in the Matrix Spike Duplicate. Gasoline Range Hydrocarbons (GRO) recovered above QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 648059-005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017, -018, -019, -020, -021.

The Laboratory Control Sample for Gasoline Range Hydrocarbons (GRO), Diesel Range Organics (DRO) is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3112567 BTEX by EPA 8021B

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

Batch: LBA-3112568 BTEX by EPA 8021B

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



Certificate of Analysis Summary 648059

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 2-24-30

Project Id:

Contact: Dan Moir

Project Location:

Date Received in Lab: Tue Jan-07-20 09:36 am

Report Date: 08-JAN-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	648059-001	648059-002	648059-003	648059-004	648059-005	648059-006
	Field Id:	FS13	FS14	FS15	FS16	FS17	FS18
	Depth:	2.5- ft	3- ft	4- ft	4- ft	3- ft	3- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Jan-02-20 09:20	Jan-02-20 09:25	Jan-02-20 09:30	Jan-02-20 09:35	Jan-02-20 09:40	Jan-02-20 09:50
BTEX by EPA 8021B	Extracted:	Jan-07-20 10:30	Jan-07-20 10:30	Jan-07-20 10:30	Jan-07-20 10:30	Jan-07-20 10:30	Jan-07-20 10:30
	Analyzed:	Jan-08-20 07:04	Jan-07-20 16:16	Jan-07-20 19:29	Jan-07-20 18:00	Jan-07-20 19:46	Jan-07-20 18:19
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.0251 0.0251	<0.0200 0.0200	<0.00198 0.00198	<0.00200 0.00200	<0.0179 0.0179	<0.00200 0.00200
Toluene		0.279 0.100	<0.0200 0.0200	<0.00198 0.00198	<0.00200 0.00200	<0.0179 0.0179	<0.00200 0.00200
Ethylbenzene		0.881 0.100	<0.0200 0.0200	0.00265 0.00198	<0.00200 0.00200	0.0654 0.0179	<0.00200 0.00200
m,p-Xylenes		4.00 0.200	<0.0400 0.0400	0.0106 0.00396	<0.00399 0.00399	0.248 0.0357	<0.00399 0.00399
o-Xylene		2.20 0.100	<0.0200 0.0200	0.00942 0.00198	<0.00200 0.00200	0.270 0.0179	<0.00200 0.00200
Total Xylenes		6.20 0.100	<0.0200 0.0200	0.0200 0.00198	<0.00200 0.00200	0.518 0.0179	<0.00200 0.00200
Total BTEX		7.36 0.0251	<0.0200 0.0200	0.0227 0.00198	<0.00200 0.00200	0.583 0.0179	<0.00200 0.00200
Chloride by EPA 300	Extracted:	Jan-07-20 11:00	Jan-07-20 11:00	Jan-07-20 11:00	Jan-07-20 11:00	Jan-07-20 11:00	Jan-07-20 11:00
	Analyzed:	Jan-07-20 13:31	Jan-07-20 13:36	Jan-07-20 13:42	Jan-07-20 13:59	Jan-07-20 14:04	Jan-07-20 14:21
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<10.1 10.1	<9.98 9.98	<9.96 9.96	<10.0 10.0	<10.1 10.1	<9.98 9.98
TPH by SW8015 Mod	Extracted:	Jan-07-20 10:30	Jan-07-20 10:30	Jan-07-20 10:30	Jan-07-20 10:30	Jan-07-20 14:30	Jan-07-20 14:30
	Analyzed:	Jan-07-20 13:51	Jan-07-20 14:11	Jan-07-20 14:11	Jan-07-20 14:31	Jan-07-20 15:16	Jan-07-20 19:05
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		261 49.9	<50.3 50.3	<50.0 50.0	<50.1 50.1	125 49.9	<50.0 50.0
Diesel Range Organics (DRO)		2340 49.9	<50.3 50.3	366 50.0	<50.1 50.1	1140 49.9	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		176 49.9	<50.3 50.3	<50.0 50.0	<50.1 50.1	90.1 49.9	<50.0 50.0
Total GRO-DRO		2600 49.9	<50.3 50.3	366 50.0	<50.1 50.1	1270 49.9	<50.0 50.0
Total TPH		2780 49.9	<50.3 50.3	366 50.0	<50.1 50.1	1360 49.9	<50.0 50.0

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

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

Version: 1.9%

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 648059

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 2-24-30

Project Id:

Contact: Dan Moir

Project Location:

Date Received in Lab: Tue Jan-07-20 09:36 am

Report Date: 08-JAN-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	648059-007	648059-008	648059-009	648059-010	648059-011	648059-012
	Field Id:	FS19	FS20	FS21	FS22	FS23	FS24
	Depth:	4- ft	3- ft	4- ft	4- ft	4- ft	3.5- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Jan-02-20 09:45	Jan-02-20 10:10	Jan-02-20 10:15	Jan-02-20 10:20	Jan-02-20 10:25	Jan-02-20 10:30
BTEX by EPA 8021B	Extracted:	Jan-07-20 10:30	Jan-07-20 10:30	Jan-07-20 10:30	Jan-07-20 10:30	Jan-07-20 10:30	Jan-07-20 10:30
	Analyzed:	Jan-07-20 20:04	Jan-07-20 18:37	Jan-07-20 20:21	Jan-07-20 20:39	Jan-07-20 18:54	Jan-07-20 19:12
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.0185 0.0185	<0.00198 0.00198	<0.0204 0.0204	<0.0192 0.0192	<0.00201 0.00201	<0.00198 0.00198
Toluene		<0.0185 0.0185	<0.00198 0.00198	<0.0204 0.0204	<0.0192 0.0192	<0.00201 0.00201	<0.00198 0.00198
Ethylbenzene		0.0362 0.0185	<0.00198 0.00198	<0.0204 0.0204	<0.0192 0.0192	<0.00201 0.00201	<0.00198 0.00198
m,p-Xylenes		0.165 0.0370	<0.00395 0.00395	<0.0408 0.0408	<0.0385 0.0385	<0.00402 0.00402	<0.00396 0.00396
o-Xylene		0.134 0.0185	<0.00198 0.00198	0.0214 0.0204	<0.0192 0.0192	<0.00201 0.00201	<0.00198 0.00198
Total Xylenes		0.299 0.0185	<0.00198 0.00198	0.0214 0.0204	<0.0192 0.0192	<0.00201 0.00201	<0.00198 0.00198
Total BTEX		0.335 0.0185	<0.00198 0.00198	0.0214 0.0204	<0.0192 0.0192	<0.00201 0.00201	<0.00198 0.00198
Chloride by EPA 300	Extracted:	Jan-07-20 11:00	Jan-07-20 11:00	Jan-07-20 11:00	Jan-07-20 11:00	Jan-07-20 11:00	Jan-07-20 11:00
	Analyzed:	Jan-07-20 14:26	Jan-07-20 14:32	Jan-07-20 14:38	Jan-07-20 14:43	Jan-07-20 14:49	Jan-07-20 14:54
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<9.94 9.94	<9.98 9.98	<10.0 10.0	<10.1 10.1	<10.0 10.0	<9.94 9.94
TPH by SW8015 Mod	Extracted:	Jan-07-20 14:30	Jan-07-20 14:30	Jan-07-20 14:30	Jan-07-20 14:30	Jan-07-20 14:30	Jan-07-20 14:30
	Analyzed:	Jan-07-20 20:05	Jan-07-20 19:05	Jan-07-20 19:25	Jan-07-20 16:27	Jan-07-20 16:27	Jan-07-20 16:46
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		65.2 50.2	<50.0 50.0	94.6 50.2	<50.0 50.0	<50.0 50.0	<50.1 50.1
Diesel Range Organics (DRO)		663 50.2	<50.0 50.0	1570 50.2	164 50.0	91.0 50.0	94.7 50.1
Motor Oil Range Hydrocarbons (MRO)		64.8 50.2	<50.0 50.0	130 50.2	<50.0 50.0	<50.0 50.0	<50.1 50.1
Total GRO-DRO		728 50.2	<50.0 50.0	1660 50.2	164 50.0	91.0 50.0	94.7 50.1
Total TPH		793 50.2	<50.0 50.0	1790 50.2	164 50.0	91.0 50.0	94.7 50.1

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

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

Version: 1.9%

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 648059

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 2-24-30

Project Id:

Contact: Dan Moir

Project Location:

Date Received in Lab: Tue Jan-07-20 09:36 am

Report Date: 08-JAN-20

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	648059-013	648059-014	648059-015	648059-016	648059-017	648059-018
	<i>Field Id:</i>	SW01	SW02	SW03	SW04	SW05	SW06
	<i>Depth:</i>	0-3 ft	0-3 ft	0-2 ft	0-2 ft	0-2 ft	0-2.5 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jan-02-20 15:20	Jan-02-20 15:25	Jan-02-20 15:30	Jan-02-20 15:35	Jan-02-20 15:55	Jan-02-20 16:05
BTEX by EPA 8021B	<i>Extracted:</i>	Jan-07-20 14:14	Jan-07-20 14:14	Jan-07-20 14:14	Jan-07-20 14:14	Jan-07-20 14:14	Jan-07-20 14:14
	<i>Analyzed:</i>	Jan-07-20 15:02	Jan-07-20 15:22	Jan-07-20 16:19	Jan-07-20 16:38	Jan-07-20 15:41	Jan-07-20 16:57
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00201 0.00201	<0.0200 0.0200	<0.0200 0.0200	<0.00202 0.00202	<0.0196 0.0196
Toluene		<0.00201 0.00201	<0.00201 0.00201	<0.0200 0.0200	0.0211 0.0200	<0.00202 0.00202	<0.0196 0.0196
Ethylbenzene		<0.00201 0.00201	<0.00201 0.00201	0.0827 0.0200	0.107 0.0200	<0.00202 0.00202	<0.0196 0.0196
m,p-Xylenes		<0.00402 0.00402	<0.00402 0.00402	0.580 0.0400	0.852 0.0400	<0.00403 0.00403	<0.0392 0.0392
o-Xylene		<0.00201 0.00201	<0.00201 0.00201	0.306 0.0200	0.487 0.0200	<0.00202 0.00202	<0.0196 0.0196
Total Xylenes		<0.00201 0.00201	<0.00201 0.00201	0.886 0.0200	1.34 0.0200	<0.00202 0.00202	<0.0196 0.0196
Total BTEX		<0.00201 0.00201	<0.00201 0.00201	0.969 0.0200	1.47 0.0200	<0.00202 0.00202	<0.0196 0.0196
Chloride by EPA 300	<i>Extracted:</i>	Jan-07-20 13:30	Jan-07-20 13:30	Jan-07-20 13:30	Jan-07-20 13:30	Jan-07-20 13:30	Jan-07-20 13:30
	<i>Analyzed:</i>	Jan-07-20 15:28	Jan-07-20 15:45	Jan-07-20 15:50	Jan-07-20 15:56	Jan-07-20 16:01	Jan-07-20 16:18
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		100 10.1	23.3 9.98	30.7 9.94	<10.1 10.1	<10.0 10.0	<9.94 9.94
TPH by SW8015 Mod	<i>Extracted:</i>	Jan-07-20 14:30	Jan-07-20 14:30	Jan-07-20 14:30	Jan-07-20 14:30	Jan-07-20 14:30	Jan-07-20 14:30
	<i>Analyzed:</i>	Jan-07-20 16:46	Jan-07-20 17:06	Jan-07-20 17:26	Jan-07-20 17:26	Jan-07-20 19:45	Jan-07-20 20:25
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<50.1 50.1	229 50.2	191 50.1	<49.8 49.8	358 50.3
Diesel Range Organics (DRO)		<50.0 50.0	<50.1 50.1	4270 50.2	2820 50.1	<49.8 49.8	3050 50.3
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.1 50.1	338 50.2	250 50.1	<49.8 49.8	250 50.3
Total GRO-DRO		<50.0 50.0	<50.1 50.1	4500 50.2	3010 50.1	<49.8 49.8	3410 50.3
Total TPH		<50.0 50.0	<50.1 50.1	4840 50.2	3260 50.1	<49.8 49.8	3660 50.3

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

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

Version: 1.9%

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 648059

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 2-24-30

Project Id:

Contact: Dan Moir

Project Location:

Date Received in Lab: Tue Jan-07-20 09:36 am

Report Date: 08-JAN-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	648059-019	648059-020	648059-021			
	Field Id:	FS03A	FS04A	FS06A			
	Depth:	3.5- ft	3.5- ft	3.5- ft			
	Matrix:	SOIL	SOIL	SOIL			
	Sampled:	Jan-02-20 15:00	Jan-02-20 15:10	Jan-02-20 15:05			
BTEX by EPA 8021B	Extracted:	Jan-07-20 14:14	Jan-07-20 14:14	Jan-07-20 14:14			
	Analyzed:	Jan-07-20 16:00	Jan-07-20 17:16	Jan-07-20 20:15			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00198 0.00198	<0.00198 0.00198	<0.00201 0.00201			
Toluene		<0.00198 0.00198	0.0177 0.00198	<0.00201 0.00201			
Ethylbenzene		<0.00198 0.00198	0.0548 0.00198	<0.00201 0.00201			
m,p-Xylenes		<0.00396 0.00396	0.345 0.00396	<0.00402 0.00402			
o-Xylene		<0.00198 0.00198	0.152 0.00198	<0.00201 0.00201			
Total Xylenes		<0.00198 0.00198	0.497 0.00198	<0.00201 0.00201			
Total BTEX		<0.00198 0.00198	0.570 0.00198	<0.00201 0.00201			
Chloride by EPA 300	Extracted:	Jan-07-20 13:30	Jan-07-20 13:30	Jan-07-20 13:30			
	Analyzed:	Jan-07-20 16:24	Jan-07-20 16:30	Jan-07-20 16:36			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		344 9.92	22.8 9.98	74.7 10.1			
TPH by SW8015 Mod	Extracted:	Jan-07-20 14:30	Jan-07-20 14:30	Jan-07-20 14:30			
	Analyzed:	Jan-07-20 18:06	Jan-07-20 18:06	Jan-07-20 18:26			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<50.3 50.3	<49.9 49.9	<50.1 50.1			
Diesel Range Organics (DRO)		<50.3 50.3	77.1 49.9	<50.1 50.1			
Motor Oil Range Hydrocarbons (MRO)		<50.3 50.3	<49.9 49.9	<50.1 50.1			
Total GRO-DRO		<50.3 50.3	77.1 49.9	<50.1 50.1			
Total TPH		<50.3 50.3	77.1 49.9	<50.1 50.1			

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

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

Version: 1.0%

Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS13**
Lab Sample Id: 648059-001

Matrix: Soil
Date Collected: 01.02.20 09.20

Date Received: 01.07.20 09.36
Sample Depth: 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112569

Date Prep: 01.07.20 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	01.07.20 13.31	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112515

Date Prep: 01.07.20 10.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	261	49.9	mg/kg	01.07.20 13.51		1
Diesel Range Organics (DRO)	C10C28DRO	2340	49.9	mg/kg	01.07.20 13.51		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	176	49.9	mg/kg	01.07.20 13.51		1
Total GRO-DRO	PHC628	2600	49.9	mg/kg	01.07.20 13.51		1
Total TPH	PHC635	2780	49.9	mg/kg	01.07.20 13.51		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	131	%	70-135	01.07.20 13.51	
o-Terphenyl	84-15-1	121	%	70-135	01.07.20 13.51	



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS13**
Lab Sample Id: 648059-001

Matrix: Soil
Date Collected: 01.02.20 09.20

Date Received: 01.07.20 09.36
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3112567

Date Prep: 01.07.20 10.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0251	0.0251	mg/kg	01.08.20 07.04	U	50
Toluene	108-88-3	0.279	0.100	mg/kg	01.08.20 07.04		50
Ethylbenzene	100-41-4	0.881	0.100	mg/kg	01.08.20 07.04		50
m,p-Xylenes	179601-23-1	4.00	0.200	mg/kg	01.08.20 07.04		50
o-Xylene	95-47-6	2.20	0.100	mg/kg	01.08.20 07.04		50
Total Xylenes	1330-20-7	6.20	0.100	mg/kg	01.08.20 07.04		50
Total BTEX		7.36	0.0251	mg/kg	01.08.20 07.04		50
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	95	%	70-130	01.08.20 07.04		
4-Bromofluorobenzene	460-00-4	113	%	70-130	01.08.20 07.04		



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS14**
Lab Sample Id: 648059-002

Matrix: Soil
Date Collected: 01.02.20 09.25

Date Received: 01.07.20 09.36
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112569

Date Prep: 01.07.20 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	01.07.20 13.36	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112515

Date Prep: 01.07.20 10.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	01.07.20 14.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	01.07.20 14.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	01.07.20 14.11	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	01.07.20 14.11	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	01.07.20 14.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	01.07.20 14.11	
o-Terphenyl	84-15-1	117	%	70-135	01.07.20 14.11	



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS14**
Lab Sample Id: 648059-002

Matrix: Soil
Date Collected: 01.02.20 09.25

Date Received: 01.07.20 09.36
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.07.20 10.30

Basis: Wet Weight

Seq Number: 3112567

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	01.07.20 16.16	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	01.07.20 16.16	U	1
Ethylbenzene	100-41-4	<0.0200	0.0200	mg/kg	01.07.20 16.16	U	1
m,p-Xylenes	179601-23-1	<0.0400	0.0400	mg/kg	01.07.20 16.16	U	1
o-Xylene	95-47-6	<0.0200	0.0200	mg/kg	01.07.20 16.16	U	1
Total Xylenes	1330-20-7	<0.0200	0.0200	mg/kg	01.07.20 16.16	U	1
Total BTEX		<0.0200	0.0200	mg/kg	01.07.20 16.16	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	70-130	01.07.20 16.16		
1,4-Difluorobenzene	540-36-3	103	%	70-130	01.07.20 16.16		



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS15**
Lab Sample Id: 648059-003

Matrix: Soil
Date Collected: 01.02.20 09.30

Date Received: 01.07.20 09.36
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112569

Date Prep: 01.07.20 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.96	9.96	mg/kg	01.07.20 13.42	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112515

Date Prep: 01.07.20 10.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.07.20 14.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	366	50.0	mg/kg	01.07.20 14.11		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.07.20 14.11	U	1
Total GRO-DRO	PHC628	366	50.0	mg/kg	01.07.20 14.11		1
Total TPH	PHC635	366	50.0	mg/kg	01.07.20 14.11		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	01.07.20 14.11	
o-Terphenyl	84-15-1	114	%	70-135	01.07.20 14.11	



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS15**
Lab Sample Id: 648059-003

Matrix: Soil
Date Collected: 01.02.20 09.30

Date Received: 01.07.20 09.36
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.07.20 10.30

Basis: Wet Weight

Seq Number: 3112567

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.07.20 19.29	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.07.20 19.29	U	1
Ethylbenzene	100-41-4	0.00265	0.00198	mg/kg	01.07.20 19.29		1
m,p-Xylenes	179601-23-1	0.0106	0.00396	mg/kg	01.07.20 19.29		1
o-Xylene	95-47-6	0.00942	0.00198	mg/kg	01.07.20 19.29		1
Total Xylenes	1330-20-7	0.0200	0.00198	mg/kg	01.07.20 19.29		1
Total BTEX		0.0227	0.00198	mg/kg	01.07.20 19.29		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	01.07.20 19.29		
4-Bromofluorobenzene	460-00-4	110	%	70-130	01.07.20 19.29		



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS16**
Lab Sample Id: 648059-004

Matrix: Soil
Date Collected: 01.02.20 09.35

Date Received: 01.07.20 09.36
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112569

Date Prep: 01.07.20 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	01.07.20 13.59	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112515

Date Prep: 01.07.20 10.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.07.20 14.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	01.07.20 14.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.07.20 14.31	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	01.07.20 14.31	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	01.07.20 14.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	01.07.20 14.31	
o-Terphenyl	84-15-1	118	%	70-135	01.07.20 14.31	



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS16**
Lab Sample Id: 648059-004

Matrix: Soil
Date Collected: 01.02.20 09.35

Date Received: 01.07.20 09.36
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3112567

Date Prep: 01.07.20 10.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.07.20 18.00	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.07.20 18.00	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.07.20 18.00	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.07.20 18.00	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.07.20 18.00	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.07.20 18.00	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.07.20 18.00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	01.07.20 18.00		
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.07.20 18.00		



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS17**
Lab Sample Id: 648059-005

Matrix: Soil
Date Collected: 01.02.20 09.40

Date Received: 01.07.20 09.36
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112569

Date Prep: 01.07.20 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	01.07.20 14.04	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112556

Date Prep: 01.07.20 14.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	125	49.9	mg/kg	01.07.20 15.16		1
Diesel Range Organics (DRO)	C10C28DRO	1140	49.9	mg/kg	01.07.20 15.16		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	90.1	49.9	mg/kg	01.07.20 15.16		1
Total GRO-DRO	PHC628	1270	49.9	mg/kg	01.07.20 15.16		1
Total TPH	PHC635	1360	49.9	mg/kg	01.07.20 15.16		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	01.07.20 15.16	
o-Terphenyl	84-15-1	121	%	70-135	01.07.20 15.16	



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS17**
Lab Sample Id: 648059-005

Matrix: Soil
Date Collected: 01.02.20 09.40

Date Received: 01.07.20 09.36
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.07.20 10.30

Basis: Wet Weight

Seq Number: 3112567

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0179	0.0179	mg/kg	01.07.20 19.46	U	1
Toluene	108-88-3	<0.0179	0.0179	mg/kg	01.07.20 19.46	U	1
Ethylbenzene	100-41-4	0.0654	0.0179	mg/kg	01.07.20 19.46		1
m,p-Xylenes	179601-23-1	0.248	0.0357	mg/kg	01.07.20 19.46		1
o-Xylene	95-47-6	0.270	0.0179	mg/kg	01.07.20 19.46		1
Total Xylenes	1330-20-7	0.518	0.0179	mg/kg	01.07.20 19.46		1
Total BTEX		0.583	0.0179	mg/kg	01.07.20 19.46		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	123		%	70-130	01.07.20 19.46	
1,4-Difluorobenzene	540-36-3	94		%	70-130	01.07.20 19.46	



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS18**
Lab Sample Id: 648059-006

Matrix: Soil
Date Collected: 01.02.20 09.50

Date Received: 01.07.20 09.36
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112569

Date Prep: 01.07.20 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	01.07.20 14.21	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112556

Date Prep: 01.07.20 14.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.07.20 19.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.07.20 19.05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.07.20 19.05	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	01.07.20 19.05	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.07.20 19.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	01.07.20 19.05	
o-Terphenyl	84-15-1	119	%	70-135	01.07.20 19.05	



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS18**
Lab Sample Id: 648059-006

Matrix: Soil
Date Collected: 01.02.20 09.50

Date Received: 01.07.20 09.36
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.07.20 10.30

Basis: Wet Weight

Seq Number: 3112567

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.07.20 18.19	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.07.20 18.19	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.07.20 18.19	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.07.20 18.19	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.07.20 18.19	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.07.20 18.19	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.07.20 18.19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	01.07.20 18.19		
4-Bromofluorobenzene	460-00-4	106	%	70-130	01.07.20 18.19		



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS19**
Lab Sample Id: 648059-007

Matrix: Soil
Date Collected: 01.02.20 09.45

Date Received: 01.07.20 09.36
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112569

Date Prep: 01.07.20 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.94	9.94	mg/kg	01.07.20 14.26	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112556

Date Prep: 01.07.20 14.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	65.2	50.2	mg/kg	01.07.20 20.05		1
Diesel Range Organics (DRO)	C10C28DRO	663	50.2	mg/kg	01.07.20 20.05		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	64.8	50.2	mg/kg	01.07.20 20.05		1
Total GRO-DRO	PHC628	728	50.2	mg/kg	01.07.20 20.05		1
Total TPH	PHC635	793	50.2	mg/kg	01.07.20 20.05		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	125	%	70-135	01.07.20 20.05	
o-Terphenyl	84-15-1	127	%	70-135	01.07.20 20.05	



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS19**
Lab Sample Id: 648059-007

Matrix: Soil
Date Collected: 01.02.20 09.45

Date Received: 01.07.20 09.36
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3112567

Date Prep: 01.07.20 10.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0185	0.0185	mg/kg	01.07.20 20.04	U	1
Toluene	108-88-3	<0.0185	0.0185	mg/kg	01.07.20 20.04	U	1
Ethylbenzene	100-41-4	0.0362	0.0185	mg/kg	01.07.20 20.04		1
m,p-Xylenes	179601-23-1	0.165	0.0370	mg/kg	01.07.20 20.04		1
o-Xylene	95-47-6	0.134	0.0185	mg/kg	01.07.20 20.04		1
Total Xylenes	1330-20-7	0.299	0.0185	mg/kg	01.07.20 20.04		1
Total BTEX		0.335	0.0185	mg/kg	01.07.20 20.04		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	112		%	70-130	01.07.20 20.04	
1,4-Difluorobenzene	540-36-3	98		%	70-130	01.07.20 20.04	



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS20**
Lab Sample Id: 648059-008

Matrix: Soil
Date Collected: 01.02.20 10.10

Date Received: 01.07.20 09.36
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112569

Date Prep: 01.07.20 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	01.07.20 14.32	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112556

Date Prep: 01.07.20 14.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.07.20 19.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.07.20 19.05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.07.20 19.05	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	01.07.20 19.05	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.07.20 19.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	01.07.20 19.05	
o-Terphenyl	84-15-1	88	%	70-135	01.07.20 19.05	



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS20**
Lab Sample Id: 648059-008

Matrix: Soil
Date Collected: 01.02.20 10.10

Date Received: 01.07.20 09.36
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3112567

Date Prep: 01.07.20 10.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.07.20 18.37	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.07.20 18.37	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.07.20 18.37	U	1
m,p-Xylenes	179601-23-1	<0.00395	0.00395	mg/kg	01.07.20 18.37	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.07.20 18.37	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	01.07.20 18.37	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.07.20 18.37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	01.07.20 18.37		
1,4-Difluorobenzene	540-36-3	100	%	70-130	01.07.20 18.37		



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: FS21
Lab Sample Id: 648059-009

Matrix: Soil
Date Collected: 01.02.20 10.15

Date Received: 01.07.20 09.36
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112569

Date Prep: 01.07.20 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	01.07.20 14.38	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112556

Date Prep: 01.07.20 14.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	94.6	50.2	mg/kg	01.07.20 19.25		1
Diesel Range Organics (DRO)	C10C28DRO	1570	50.2	mg/kg	01.07.20 19.25		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	130	50.2	mg/kg	01.07.20 19.25		1
Total GRO-DRO	PHC628	1660	50.2	mg/kg	01.07.20 19.25		1
Total TPH	PHC635	1790	50.2	mg/kg	01.07.20 19.25		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	130	%	70-135	01.07.20 19.25	
o-Terphenyl	84-15-1	132	%	70-135	01.07.20 19.25	



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS21**
Lab Sample Id: 648059-009

Matrix: Soil
Date Collected: 01.02.20 10.15

Date Received: 01.07.20 09.36
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.07.20 10.30

Basis: Wet Weight

Seq Number: 3112567

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0204	0.0204	mg/kg	01.07.20 20.21	U	1
Toluene	108-88-3	<0.0204	0.0204	mg/kg	01.07.20 20.21	U	1
Ethylbenzene	100-41-4	<0.0204	0.0204	mg/kg	01.07.20 20.21	U	1
m,p-Xylenes	179601-23-1	<0.0408	0.0408	mg/kg	01.07.20 20.21	U	1
o-Xylene	95-47-6	0.0214	0.0204	mg/kg	01.07.20 20.21		1
Total Xylenes	1330-20-7	0.0214	0.0204	mg/kg	01.07.20 20.21		1
Total BTEX		0.0214	0.0204	mg/kg	01.07.20 20.21		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	97	%	70-130	01.07.20 20.21		
4-Bromofluorobenzene	460-00-4	103	%	70-130	01.07.20 20.21		



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: FS22
Lab Sample Id: 648059-010

Matrix: Soil
Date Collected: 01.02.20 10.20

Date Received: 01.07.20 09.36
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112569

Date Prep: 01.07.20 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	01.07.20 14.43	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112556

Date Prep: 01.07.20 14.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.07.20 16.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	164	50.0	mg/kg	01.07.20 16.27		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.07.20 16.27	U	1
Total GRO-DRO	PHC628	164	50.0	mg/kg	01.07.20 16.27		1
Total TPH	PHC635	164	50.0	mg/kg	01.07.20 16.27		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	01.07.20 16.27	
o-Terphenyl	84-15-1	129	%	70-135	01.07.20 16.27	



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: FS22
Lab Sample Id: 648059-010

Matrix: Soil
Date Collected: 01.02.20 10.20

Date Received: 01.07.20 09.36
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.07.20 10.30

Basis: Wet Weight

Seq Number: 3112567

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0192	0.0192	mg/kg	01.07.20 20.39	U	1
Toluene	108-88-3	<0.0192	0.0192	mg/kg	01.07.20 20.39	U	1
Ethylbenzene	100-41-4	<0.0192	0.0192	mg/kg	01.07.20 20.39	U	1
m,p-Xylenes	179601-23-1	<0.0385	0.0385	mg/kg	01.07.20 20.39	U	1
o-Xylene	95-47-6	<0.0192	0.0192	mg/kg	01.07.20 20.39	U	1
Total Xylenes	1330-20-7	<0.0192	0.0192	mg/kg	01.07.20 20.39	U	1
Total BTEX		<0.0192	0.0192	mg/kg	01.07.20 20.39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	01.07.20 20.39		
4-Bromofluorobenzene	460-00-4	107	%	70-130	01.07.20 20.39		



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: FS23
Lab Sample Id: 648059-011

Matrix: Soil
Date Collected: 01.02.20 10.25

Date Received: 01.07.20 09.36
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112569

Date Prep: 01.07.20 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	01.07.20 14.49	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112556

Date Prep: 01.07.20 14.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.07.20 16.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	91.0	50.0	mg/kg	01.07.20 16.27		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.07.20 16.27	U	1
Total GRO-DRO	PHC628	91.0	50.0	mg/kg	01.07.20 16.27		1
Total TPH	PHC635	91.0	50.0	mg/kg	01.07.20 16.27		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	01.07.20 16.27	
o-Terphenyl	84-15-1	86	%	70-135	01.07.20 16.27	



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: FS23
Lab Sample Id: 648059-011

Matrix: Soil
Date Collected: 01.02.20 10.25

Date Received: 01.07.20 09.36
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.07.20 10.30

Basis: Wet Weight

Seq Number: 3112567

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.07.20 18.54	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.07.20 18.54	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.07.20 18.54	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.07.20 18.54	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.07.20 18.54	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	01.07.20 18.54	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.07.20 18.54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	01.07.20 18.54		
1,4-Difluorobenzene	540-36-3	97	%	70-130	01.07.20 18.54		



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS24**
Lab Sample Id: 648059-012

Matrix: Soil
Date Collected: 01.02.20 10.30

Date Received: 01.07.20 09.36
Sample Depth: 3.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112569

Date Prep: 01.07.20 11.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.94	9.94	mg/kg	01.07.20 14.54	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112556

Date Prep: 01.07.20 14.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.07.20 16.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	94.7	50.1	mg/kg	01.07.20 16.46		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.07.20 16.46	U	1
Total GRO-DRO	PHC628	94.7	50.1	mg/kg	01.07.20 16.46		1
Total TPH	PHC635	94.7	50.1	mg/kg	01.07.20 16.46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	01.07.20 16.46	
o-Terphenyl	84-15-1	121	%	70-135	01.07.20 16.46	



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS24**
Lab Sample Id: 648059-012

Matrix: Soil
Date Collected: 01.02.20 10.30

Date Received: 01.07.20 09.36
Sample Depth: 3.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3112567

Date Prep: 01.07.20 10.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.07.20 19.12	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.07.20 19.12	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.07.20 19.12	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	01.07.20 19.12	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.07.20 19.12	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	01.07.20 19.12	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.07.20 19.12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	97	%	70-130	01.07.20 19.12		
4-Bromofluorobenzene	460-00-4	102	%	70-130	01.07.20 19.12		



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW01**
Lab Sample Id: 648059-013

Matrix: Soil
Date Collected: 01.02.20 15.20

Date Received: 01.07.20 09.36
Sample Depth: 0 - 3 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112570

Date Prep: 01.07.20 13.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	100	10.1	mg/kg	01.07.20 15.28		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112556

Date Prep: 01.07.20 14.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.07.20 16.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.07.20 16.46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.07.20 16.46	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	01.07.20 16.46	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.07.20 16.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	128	%	70-135	01.07.20 16.46	
o-Terphenyl	84-15-1	124	%	70-135	01.07.20 16.46	



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW01**
Lab Sample Id: 648059-013

Matrix: Soil
Date Collected: 01.02.20 15.20

Date Received: 01.07.20 09.36
Sample Depth: 0 - 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.07.20 14.14

Basis: Wet Weight

Seq Number: 3112568

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.07.20 15.02	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.07.20 15.02	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.07.20 15.02	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.07.20 15.02	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.07.20 15.02	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	01.07.20 15.02	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.07.20 15.02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	01.07.20 15.02		
4-Bromofluorobenzene	460-00-4	102	%	70-130	01.07.20 15.02		



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW02**
Lab Sample Id: 648059-014

Matrix: Soil
Date Collected: 01.02.20 15.25

Date Received: 01.07.20 09.36
Sample Depth: 0 - 3 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112570

Date Prep: 01.07.20 13.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.3	9.98	mg/kg	01.07.20 15.45		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112556

Date Prep: 01.07.20 14.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.07.20 17.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	01.07.20 17.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.07.20 17.06	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	01.07.20 17.06	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	01.07.20 17.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	128	%	70-135	01.07.20 17.06	
o-Terphenyl	84-15-1	132	%	70-135	01.07.20 17.06	



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW02**
Lab Sample Id: 648059-014

Matrix: Soil
Date Collected: 01.02.20 15.25

Date Received: 01.07.20 09.36
Sample Depth: 0 - 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.07.20 14.14

Basis: Wet Weight

Seq Number: 3112568

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.07.20 15.22	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.07.20 15.22	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.07.20 15.22	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.07.20 15.22	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.07.20 15.22	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	01.07.20 15.22	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.07.20 15.22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	86	%	70-130	01.07.20 15.22		
4-Bromofluorobenzene	460-00-4	107	%	70-130	01.07.20 15.22		



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW03**
Lab Sample Id: 648059-015

Matrix: Soil
Date Collected: 01.02.20 15.30

Date Received: 01.07.20 09.36
Sample Depth: 0 - 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112570

Date Prep: 01.07.20 13.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	30.7	9.94	mg/kg	01.07.20 15.50		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112556

Date Prep: 01.07.20 14.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	229	50.2	mg/kg	01.07.20 17.26		1
Diesel Range Organics (DRO)	C10C28DRO	4270	50.2	mg/kg	01.07.20 17.26		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	338	50.2	mg/kg	01.07.20 17.26		1
Total GRO-DRO	PHC628	4500	50.2	mg/kg	01.07.20 17.26		1
Total TPH	PHC635	4840	50.2	mg/kg	01.07.20 17.26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	131	%	70-135	01.07.20 17.26	
o-Terphenyl	84-15-1	120	%	70-135	01.07.20 17.26	



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW03**
Lab Sample Id: 648059-015

Matrix: Soil
Date Collected: 01.02.20 15.30

Date Received: 01.07.20 09.36
Sample Depth: 0 - 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.07.20 14.14

Basis: Wet Weight

Seq Number: 3112568

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	01.07.20 16.19	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	01.07.20 16.19	U	1
Ethylbenzene	100-41-4	0.0827	0.0200	mg/kg	01.07.20 16.19		1
m,p-Xylenes	179601-23-1	0.580	0.0400	mg/kg	01.07.20 16.19		1
o-Xylene	95-47-6	0.306	0.0200	mg/kg	01.07.20 16.19		1
Total Xylenes	1330-20-7	0.886	0.0200	mg/kg	01.07.20 16.19		1
Total BTEX		0.969	0.0200	mg/kg	01.07.20 16.19		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	70-130	01.07.20 16.19		
1,4-Difluorobenzene	540-36-3	100	%	70-130	01.07.20 16.19		



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW04**
Lab Sample Id: 648059-016

Matrix: Soil
Date Collected: 01.02.20 15.35

Date Received: 01.07.20 09.36
Sample Depth: 0 - 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112570

Date Prep: 01.07.20 13.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	01.07.20 15.56	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112556

Date Prep: 01.07.20 14.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	191	50.1	mg/kg	01.07.20 17.26		1
Diesel Range Organics (DRO)	C10C28DRO	2820	50.1	mg/kg	01.07.20 17.26		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	250	50.1	mg/kg	01.07.20 17.26		1
Total GRO-DRO	PHC628	3010	50.1	mg/kg	01.07.20 17.26		1
Total TPH	PHC635	3260	50.1	mg/kg	01.07.20 17.26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	01.07.20 17.26	
o-Terphenyl	84-15-1	95	%	70-135	01.07.20 17.26	



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW04**
Lab Sample Id: 648059-016

Matrix: Soil
Date Collected: 01.02.20 15.35

Date Received: 01.07.20 09.36
Sample Depth: 0 - 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.07.20 14.14

Basis: Wet Weight

Seq Number: 3112568

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	01.07.20 16.38	U	1
Toluene	108-88-3	0.0211	0.0200	mg/kg	01.07.20 16.38		1
Ethylbenzene	100-41-4	0.107	0.0200	mg/kg	01.07.20 16.38		1
m,p-Xylenes	179601-23-1	0.852	0.0400	mg/kg	01.07.20 16.38		1
o-Xylene	95-47-6	0.487	0.0200	mg/kg	01.07.20 16.38		1
Total Xylenes	1330-20-7	1.34	0.0200	mg/kg	01.07.20 16.38		1
Total BTEX		1.47	0.0200	mg/kg	01.07.20 16.38		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	01.07.20 16.38		
1,4-Difluorobenzene	540-36-3	99	%	70-130	01.07.20 16.38		



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW05**
Lab Sample Id: 648059-017

Matrix: Soil
Date Collected: 01.02.20 15.55

Date Received: 01.07.20 09.36
Sample Depth: 0 - 2 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112570

Date Prep: 01.07.20 13.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	01.07.20 16.01	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112556

Date Prep: 01.07.20 14.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.07.20 19.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.07.20 19.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.07.20 19.45	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	01.07.20 19.45	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.07.20 19.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-135	01.07.20 19.45	
o-Terphenyl	84-15-1	83	%	70-135	01.07.20 19.45	



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW05**
Lab Sample Id: 648059-017

Matrix: Soil
Date Collected: 01.02.20 15.55

Date Received: 01.07.20 09.36
Sample Depth: 0 - 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.07.20 14.14

Basis: Wet Weight

Seq Number: 3112568

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.07.20 15.41	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.07.20 15.41	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.07.20 15.41	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	01.07.20 15.41	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	01.07.20 15.41	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	01.07.20 15.41	U	1
Total BTEX		<0.00202	0.00202	mg/kg	01.07.20 15.41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	84	%	70-130	01.07.20 15.41		
4-Bromofluorobenzene	460-00-4	94	%	70-130	01.07.20 15.41		



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW06**
Lab Sample Id: 648059-018

Matrix: Soil
Date Collected: 01.02.20 16.05

Date Received: 01.07.20 09.36
Sample Depth: 0 - 2.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112570

Date Prep: 01.07.20 13.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.94	9.94	mg/kg	01.07.20 16.18	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112556

Date Prep: 01.07.20 14.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	358	50.3	mg/kg	01.07.20 20.25		1
Diesel Range Organics (DRO)	C10C28DRO	3050	50.3	mg/kg	01.07.20 20.25		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	250	50.3	mg/kg	01.07.20 20.25		1
Total GRO-DRO	PHC628	3410	50.3	mg/kg	01.07.20 20.25		1
Total TPH	PHC635	3660	50.3	mg/kg	01.07.20 20.25		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	131	%	70-135	01.07.20 20.25	
o-Terphenyl	84-15-1	128	%	70-135	01.07.20 20.25	



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW06**
Lab Sample Id: 648059-018

Matrix: Soil
Date Collected: 01.02.20 16.05

Date Received: 01.07.20 09.36
Sample Depth: 0 - 2.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.07.20 14.14

Basis: Wet Weight

Seq Number: 3112568

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0196	0.0196	mg/kg	01.07.20 16.57	U	1
Toluene	108-88-3	<0.0196	0.0196	mg/kg	01.07.20 16.57	U	1
Ethylbenzene	100-41-4	<0.0196	0.0196	mg/kg	01.07.20 16.57	U	1
m,p-Xylenes	179601-23-1	<0.0392	0.0392	mg/kg	01.07.20 16.57	U	1
o-Xylene	95-47-6	<0.0196	0.0196	mg/kg	01.07.20 16.57	U	1
Total Xylenes	1330-20-7	<0.0196	0.0196	mg/kg	01.07.20 16.57	U	1
Total BTEX		<0.0196	0.0196	mg/kg	01.07.20 16.57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	01.07.20 16.57		
4-Bromofluorobenzene	460-00-4	110	%	70-130	01.07.20 16.57		



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS03A**
Lab Sample Id: 648059-019

Matrix: Soil
Date Collected: 01.02.20 15.00

Date Received: 01.07.20 09.36
Sample Depth: 3.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112570

Date Prep: 01.07.20 13.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	344	9.92	mg/kg	01.07.20 16.24		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112556

Date Prep: 01.07.20 14.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	01.07.20 18.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	01.07.20 18.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	01.07.20 18.06	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	01.07.20 18.06	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	01.07.20 18.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	01.07.20 18.06	
o-Terphenyl	84-15-1	124	%	70-135	01.07.20 18.06	



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS03A**
Lab Sample Id: 648059-019

Matrix: Soil
Date Collected: 01.02.20 15.00

Date Received: 01.07.20 09.36
Sample Depth: 3.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.07.20 14.14

Basis: Wet Weight

Seq Number: 3112568

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.07.20 16.00	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.07.20 16.00	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.07.20 16.00	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	01.07.20 16.00	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.07.20 16.00	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	01.07.20 16.00	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.07.20 16.00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	70-130	01.07.20 16.00		
1,4-Difluorobenzene	540-36-3	103	%	70-130	01.07.20 16.00		



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS04A**
Lab Sample Id: 648059-020

Matrix: Soil
Date Collected: 01.02.20 15.10

Date Received: 01.07.20 09.36
Sample Depth: 3.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112570

Date Prep: 01.07.20 13.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	22.8	9.98	mg/kg	01.07.20 16.30		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112556

Date Prep: 01.07.20 14.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	01.07.20 18.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	77.1	49.9	mg/kg	01.07.20 18.06		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	01.07.20 18.06	U	1
Total GRO-DRO	PHC628	77.1	49.9	mg/kg	01.07.20 18.06		1
Total TPH	PHC635	77.1	49.9	mg/kg	01.07.20 18.06		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-135	01.07.20 18.06	
o-Terphenyl	84-15-1	85	%	70-135	01.07.20 18.06	



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS04A**
Lab Sample Id: 648059-020

Matrix: Soil
Date Collected: 01.02.20 15.10

Date Received: 01.07.20 09.36
Sample Depth: 3.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.07.20 14.14

Basis: Wet Weight

Seq Number: 3112568

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.07.20 17.16	U	1
Toluene	108-88-3	0.0177	0.00198	mg/kg	01.07.20 17.16		1
Ethylbenzene	100-41-4	0.0548	0.00198	mg/kg	01.07.20 17.16		1
m,p-Xylenes	179601-23-1	0.345	0.00396	mg/kg	01.07.20 17.16		1
o-Xylene	95-47-6	0.152	0.00198	mg/kg	01.07.20 17.16		1
Total Xylenes	1330-20-7	0.497	0.00198	mg/kg	01.07.20 17.16		1
Total BTEX		0.570	0.00198	mg/kg	01.07.20 17.16		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	128	%	70-130	01.07.20 17.16		
1,4-Difluorobenzene	540-36-3	100	%	70-130	01.07.20 17.16		



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS06A**
Lab Sample Id: 648059-021

Matrix: Soil
Date Collected: 01.02.20 15.05

Date Received: 01.07.20 09.36
Sample Depth: 3.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3112570

Date Prep: 01.07.20 13.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	74.7	10.1	mg/kg	01.07.20 16.36		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3112556

Date Prep: 01.07.20 14.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.07.20 18.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	01.07.20 18.26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.07.20 18.26	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	01.07.20 18.26	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	01.07.20 18.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	01.07.20 18.26	
o-Terphenyl	84-15-1	122	%	70-135	01.07.20 18.26	



Certificate of Analytical Results 648059

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS06A**
Lab Sample Id: 648059-021

Matrix: Soil
Date Collected: 01.02.20 15.05

Date Received: 01.07.20 09.36
Sample Depth: 3.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3112568

Date Prep: 01.07.20 14.14

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	01.07.20 20.15	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	01.07.20 20.15	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	01.07.20 20.15	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	01.07.20 20.15	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	01.07.20 20.15	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	01.07.20 20.15	U	1
Total BTEX		<0.00201	0.00201	mg/kg	01.07.20 20.15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	01.07.20 20.15		
4-Bromofluorobenzene	460-00-4	111	%	70-130	01.07.20 20.15		



Flagging Criteria

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

****** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU Big Sinks 2-24-30

Analytical Method: Chloride by EPA 300

Seq Number: 3112569

MB Sample Id: 7693856-1-BLK

Matrix: Solid

LCS Sample Id: 7693856-1-BKS

Prep Method: E300P

Date Prep: 01.07.20

LCSD Sample Id: 7693856-1-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	241	96	243	97	90-110	1	20	mg/kg	01.07.20 11:54	

Analytical Method: Chloride by EPA 300

Seq Number: 3112570

MB Sample Id: 7693857-1-BLK

Matrix: Solid

LCS Sample Id: 7693857-1-BKS

Prep Method: E300P

Date Prep: 01.07.20

LCSD Sample Id: 7693857-1-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	244	98	247	99	90-110	1	20	mg/kg	01.07.20 15:17	

Analytical Method: Chloride by EPA 300

Seq Number: 3112569

Parent Sample Id: 648058-001

Matrix: Soil

MS Sample Id: 648058-001 S

Prep Method: E300P

Date Prep: 01.07.20

MSD Sample Id: 648058-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	15.3	199	204	95	205	95	90-110	0	20	mg/kg	01.07.20 12:11	

Analytical Method: Chloride by EPA 300

Seq Number: 3112569

Parent Sample Id: 648059-003

Matrix: Soil

MS Sample Id: 648059-003 S

Prep Method: E300P

Date Prep: 01.07.20

MSD Sample Id: 648059-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	9.35	199	204	98	217	103	90-110	6	20	mg/kg	01.07.20 13:47	

Analytical Method: Chloride by EPA 300

Seq Number: 3112570

Parent Sample Id: 648059-013

Matrix: Soil

MS Sample Id: 648059-013 S

Prep Method: E300P

Date Prep: 01.07.20

MSD Sample Id: 648059-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	100	200	299	100	302	100	90-110	1	20	mg/kg	01.07.20 15:33	

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. = $\text{Log}(\text{Sample Duplicate}) - \text{Log}(\text{Original Sample})$

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

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



LT Environmental, Inc.

PLU Big Sinks 2-24-30

Analytical Method: Chloride by EPA 300

Seq Number: 3112570

Parent Sample Id: 648079-002

Matrix: Soil

MS Sample Id: 648079-002 S

Prep Method: E300P

Date Prep: 01.07.20

MSD Sample Id: 648079-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	16.4	200	218	101	216	99	90-110	1	20	mg/kg	01.07.20 16:54	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3112515

MB Sample Id: 7693809-1-BLK

Matrix: Solid

LCS Sample Id: 7693809-1-BKS

Prep Method: SW8015P

Date Prep: 01.07.20

LCSD Sample Id: 7693809-1-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	1270	127	1310	131	70-135	3	35	mg/kg	01.07.20 09:19	
Diesel Range Organics (DRO)	<50.0	1000	1210	121	1240	124	70-135	2	35	mg/kg	01.07.20 09:19	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	118		134		130		70-135	%	01.07.20 09:19
o-Terphenyl	114		125		121		70-135	%	01.07.20 09:19

Analytical Method: TPH by SW8015 Mod

Seq Number: 3112556

MB Sample Id: 7693854-1-BLK

Matrix: Solid

LCS Sample Id: 7693854-1-BKS

Prep Method: SW8015P

Date Prep: 01.07.20

LCSD Sample Id: 7693854-1-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	1130	113	1190	119	70-135	5	35	mg/kg	01.07.20 14:56	
Diesel Range Organics (DRO)	<50.0	1000	1030	103	1140	114	70-135	10	35	mg/kg	01.07.20 14:56	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	81		102		131		70-135	%	01.07.20 14:56
o-Terphenyl	89		92		117		70-135	%	01.07.20 14:56

Analytical Method: TPH by SW8015 Mod

Seq Number: 3112515

Matrix: Solid

MB Sample Id: 7693809-1-BLK

Prep Method: SW8015P

Date Prep: 01.07.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.07.20 08:59	

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

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

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

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



LT Environmental, Inc.

PLU Big Sinks 2-24-30

Analytical Method: TPH by SW8015 Mod

Seq Number: 3112556

Matrix: Solid

Prep Method: SW8015P

Date Prep: 01.07.20

MB Sample Id: 7693854-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.07.20 14:56	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3112515

Matrix: Soil

Prep Method: SW8015P

Date Prep: 01.07.20

Parent Sample Id: 647999-001

MS Sample Id: 647999-001 S

MSD Sample Id: 647999-001 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	1420	142	1210	122	70-135	16	35	mg/kg	01.07.20 12:31	X
Diesel Range Organics (DRO)	98.4	1000	1350	125	1130	104	70-135	18	35	mg/kg	01.07.20 12:31	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		123		70-135	%	01.07.20 12:31
o-Terphenyl	107		96		70-135	%	01.07.20 12:31

Analytical Method: TPH by SW8015 Mod

Seq Number: 3112556

Matrix: Soil

Prep Method: SW8015P

Date Prep: 01.07.20

Parent Sample Id: 648059-005

MS Sample Id: 648059-005 S

MSD Sample Id: 648059-005 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)	125	1000	1690	157	1360	124	70-135	22	35	mg/kg	01.08.20 09:19	X
Diesel Range Organics (DRO)	1140	1000	1840	70	1450	31	70-135	24	35	mg/kg	01.08.20 09:19	X

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	135		110		70-135	%	01.08.20 09:19
o-Terphenyl	127		100		70-135	%	01.08.20 09:19

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. = $\text{Log}(\text{Sample Duplicate}) - \text{Log}(\text{Original Sample})$

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

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



LT Environmental, Inc.

PLU Big Sinks 2-24-30

Analytical Method: BTEX by EPA 8021B

Seq Number: 3112567

MB Sample Id: 7693839-1-BLK

Matrix: Solid

LCS Sample Id: 7693839-1-BKS

Prep Method: SW5030B

Date Prep: 01.07.20

LCSD Sample Id: 7693839-1-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	0.102	102	0.0950	95	70-130	7	35	mg/kg	01.07.20 12:13	
Toluene	<0.00200	0.100	0.103	103	0.0967	97	70-130	6	35	mg/kg	01.07.20 12:13	
Ethylbenzene	<0.00200	0.100	0.102	102	0.0953	95	71-129	7	35	mg/kg	01.07.20 12:13	
m,p-Xylenes	<0.00400	0.200	0.212	106	0.198	99	70-135	7	35	mg/kg	01.07.20 12:13	
o-Xylene	<0.00200	0.100	0.104	104	0.0965	97	71-133	7	35	mg/kg	01.07.20 12:13	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		99		98		70-130	%	01.07.20 12:13
4-Bromofluorobenzene	98		101		100		70-130	%	01.07.20 12:13

Analytical Method: BTEX by EPA 8021B

Seq Number: 3112568

MB Sample Id: 7693860-1-BLK

Matrix: Solid

LCS Sample Id: 7693860-1-BKS

Prep Method: SW5030B

Date Prep: 01.07.20

LCSD Sample Id: 7693860-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.105	105	0.116	116	70-130	10	35	mg/kg	01.07.20 12:16	
Toluene	<0.00200	0.100	0.104	104	0.114	114	70-130	9	35	mg/kg	01.07.20 12:16	
Ethylbenzene	<0.00200	0.100	0.107	107	0.117	117	71-129	9	35	mg/kg	01.07.20 12:16	
m,p-Xylenes	<0.00400	0.200	0.214	107	0.234	117	70-135	9	35	mg/kg	01.07.20 12:16	
o-Xylene	<0.00200	0.100	0.107	107	0.117	117	71-133	9	35	mg/kg	01.07.20 12:16	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		101		103		70-130	%	01.07.20 12:16
4-Bromofluorobenzene	100		107		106		70-130	%	01.07.20 12:16

Analytical Method: BTEX by EPA 8021B

Seq Number: 3112567

Parent Sample Id: 648058-001

Matrix: Soil

MS Sample Id: 648058-001 S

Prep Method: SW5030B

Date Prep: 01.07.20

MSD Sample Id: 648058-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0985	98	0.103	102	70-130	4	35	mg/kg	01.07.20 12:48	
Toluene	<0.00202	0.101	0.0986	98	0.102	101	70-130	3	35	mg/kg	01.07.20 12:48	
Ethylbenzene	<0.00202	0.101	0.0964	95	0.0991	98	71-129	3	35	mg/kg	01.07.20 12:48	
m,p-Xylenes	<0.000761	0.202	0.199	99	0.204	101	70-135	2	35	mg/kg	01.07.20 12:48	
o-Xylene	<0.00202	0.101	0.0985	98	0.100	99	71-133	2	35	mg/kg	01.07.20 12:48	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		100		70-130	%	01.07.20 12:48
4-Bromofluorobenzene	102		100		70-130	%	01.07.20 12:48

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

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

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

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



LT Environmental, Inc.

PLU Big Sinks 2-24-30

Analytical Method: BTEX by EPA 8021B

Seq Number: 3112568

Parent Sample Id: 648059-021

Matrix: Soil

MS Sample Id: 648059-021 S

Prep Method: SW5030B

Date Prep: 01.07.20

MSD Sample Id: 648059-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.128	128	0.0963	96	70-130	28	35	mg/kg	01.07.20 12:55	
Toluene	<0.00201	0.100	0.124	124	0.0923	92	70-130	29	35	mg/kg	01.07.20 12:55	
Ethylbenzene	<0.00201	0.100	0.125	125	0.0897	90	71-129	33	35	mg/kg	01.07.20 12:55	
m,p-Xylenes	<0.00402	0.201	0.250	124	0.178	89	70-135	34	35	mg/kg	01.07.20 12:55	
o-Xylene	<0.00201	0.100	0.125	125	0.0905	91	71-133	32	35	mg/kg	01.07.20 12:55	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		103		70-130	%	01.07.20 12:55
4-Bromofluorobenzene	109		110		70-130	%	01.07.20 12:55

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

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

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

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



Chain of Custody

Work Order No:

648959

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.xenico.com

Page _____ of _____

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littlel
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:	Carsbad, NM
Phone:	432.704.5178	Email:	dmoir@ltenv.com mcafee@ltenv.com

Work Order Comments	
Program: UST/PST	☐ PPR ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:	
Reporting Level II	☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV ☐
Deliverables: EDD	☐ ADAPT ☐ Other:

Project Name:	PLU Big Smks 2-24-30	Turn Around	ANALYSIS REQUEST							Work Order Notes
Project Number:		Routine ☐								
P.O. Number:	ZRP-5422	Rush: 3day								
Sampler's Name:	Robert McAfee	Due Date:								

SAMPLE RECEIPT		Temp Blank:	☒ Yes ☐ No	Wet Ice:	☒ Yes ☐ No
Temperature (°C):	8.8	Thermometer ID			
Received Intact:	☒ Yes ☐ No	T-N-A--004			
Cooler Custody Seals:	☒ Yes ☐ No	Correction Factor:	-0.2		
Sample Custody Seals:	☒ Yes ☐ No	Total Containers:	21		

Number of Containers

EPA 8015)

EPA 0=8021)

le (EPA 300.0)

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (E)	BTEX (C)	Chloride	Sample Comments															
FS13	S	01/01/20	0926	2.5' AV	1	X	X	X	Composite															
FS14			0925	3' AV		X	X	X																
FS15			0930	4' AV		X	X	X																
FS16			0935	4' AV		X	X	X																
FS17			0940	3' AV		X	X	X																
FS18			0950	3' AV		X	X	X																
FS19			0945	4' AV		X	X	X																
FS20			1010	3' AV		X	X	X																
FS21			1015	4' AV		X	X	X																
FS22			1020	4' AV		X	X	X																

Total 200.7 / 6010 200.8 / 6020:

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U 1631 / 245.1 / 7470 / 7471 : Hg

Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xencio, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xencio 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 Xencio. A minimum charge of \$76.00 will be applied to each project, and a charge of \$6 for each sample submitted to Xencio, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>Relinquished</i>	<i>Relinquished</i>	11/17/20 4:30pm	<i>Relinquished</i>	<i>Relinquished</i>	11/17/20 0930



Chain of Custody

Work Order No: 48059

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 (505) 392-7550 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000

www.xenco.com

Page 2 of 3

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Litrel
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@xenco.com kmlitrel@xenco.com

Project Name:	PLU 8, Swinks 2-24-30	Turn Around	☐ Routine ☒ Rush: 3 day
Project Number:			
P.O. Number:	2RP-5422		
Sampler's Name:	Robert McAfee	Due Date:	

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	ANALYSIS REQUEST										Work Order Notes
					Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)							
FS 23	S	01/02/20	1025	4' AV	1	X	X	X							TAT starts the day received by the lab, if received by 4:30pm
FS 24															
SW01			1030	3.5' AV		X	X	X							
SW02			1520	0-3'		X	X	X							
SW03			1525	0-3'		X	X	X							
SW04			1530	0-2'		X	X	X							
SW05			1535	0-2'		X	X	X							Composite
SW06			1555	0-2'		X	X	X							
			1605	0-2.5'		X	X	X							

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn

Circle Method(s) and Metal(s) to be analyzed TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U 1631 / 245.1 / 7470 / 7471 : Hg

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 \$76.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>Robert McAfee</i>	<i>Robert McAfee</i>	11/2/20/9:20 AM	<i>Robert McAfee</i>	<i>Robert McAfee</i>	1/7/20 0934



Chain of Custody

Work Order No: 448059

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

www.xenco.com

Page 3 of 3

Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Little
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@xenco.com mcafee@xenco.com

Program: UST/PRST	☐ PRP	☐ Brownfields	☐ RC	☐ Superfund
State of Project:				
Reporting Level II	☐ Level III	☐ ST/UST	☐ RRP	☐ Level IV
Deliverables: EDD	☐ ADAPT	☐ Other:		

Project Name:	PLV Big Sinks 2-24-30	Turn Around	
Project Number:		Route	☐
P.O. Number:	2RP-5422	Rush:	3day
Sampler's Name:	Robert McAfee	Due Date:	

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

2 PM

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EP	BTEX (E	Chloride	Sample Comments									
FS03 A	S	01/02/26	1500	3.5' AV	1	X	X	X	Composite ↓									
FS04 A			1510	3.5' AV		X	X	X										
FS06 A			1505	3.5' AV		X	X	X										

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>Robert McAfee</i>	<i>William</i>	1/21/2019:20	<i>William</i>	<i>William</i>	1/17/20 0930

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.					
---	--	--	--	--	--

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 01.07.2020 09.36.00 AM

Work Order #: 648059

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Elizabeth McClellan

Date: 01.07.2020

Checklist reviewed by:



Jessica Kramer

Date: 01.08.2020

Analytical Report 648878

**for
LT Environmental, Inc.**

Project Manager: Dan Moir

PLU Big Sinks 2-24-30

012919074

16-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)



16-JAN-20

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

Reference: XENCO Report No(s): **648878**
PLU Big Sinks 2-24-30
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) 648878. 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. 648878 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer
Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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

**Sample Cross Reference 648878****LT Environmental, Inc., Arvada, CO**

PLU Big Sinks 2-24-30

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS25	S	01-09-20 11:00	4 ft	648878-001
FS26	S	01-09-20 11:10	4 ft	648878-002
FS27	S	01-09-20 11:15	4 ft	648878-003
FS28	S	01-09-20 11:25	4 ft	648878-004
FS29	S	01-09-20 11:30	4 ft	648878-005
FS30	S	01-09-20 11:40	4 ft	648878-006
SW07	S	01-09-20 12:00	0 - 3 ft	648878-007
SW08	S	01-09-20 12:05	0 - 3.5 ft	648878-008
SW09	S	01-09-20 12:10	0 - 4 ft	648878-009
SW10	S	01-09-20 12:20	0 - 2 ft	648878-010
SW11	S	01-09-20 12:25	0 - 2 ft	648878-011
SW12	S	01-09-20 12:30	0 - 4 ft	648878-012
SW13	S	01-09-20 12:40	0 - 4 ft	648878-013

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: PLU Big Sinks 2-24-30**

Project ID: 012919074
Work Order Number(s): 648878

Report Date: 16-JAN-20
Date Received: 01/13/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3113145 TPH by SW8015 Mod

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

Samples affected are: 648831-021 SD.

Batch: LBA-3113153 BTEX by EPA 8021B

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

Batch: LBA-3113293 TPH by SW8015 Mod

Lab Sample ID 648878-011 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Diesel Range Organics (DRO) 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: 648878-011, -012, -013.

The Laboratory Control Sample for Diesel Range Organics (DRO) is within laboratory Control Limits, therefore the data was accepted.



Certificate of Analysis Summary 648878

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 2-24-30

Project Id: 012919074

Contact: Dan Moir

Project Location:

Date Received in Lab: Mon Jan-13-20 04:00 pm

Report Date: 16-JAN-20

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	648878-001	648878-002	648878-003	648878-004	648878-005	648878-006
	<i>Field Id:</i>	FS25	FS26	FS27	FS28	FS29	FS30
	<i>Depth:</i>	4- ft	4- ft	4- ft	4- ft	4- ft	4- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jan-09-20 11:00	Jan-09-20 11:10	Jan-09-20 11:15	Jan-09-20 11:25	Jan-09-20 11:30	Jan-09-20 11:40
BTEX by EPA 8021B	<i>Extracted:</i>	Jan-13-20 17:30	Jan-13-20 17:30	Jan-13-20 17:30	Jan-13-20 17:30	Jan-13-20 17:30	Jan-13-20 17:30
	<i>Analyzed:</i>	Jan-14-20 03:21	Jan-14-20 03:40	Jan-14-20 03:59	Jan-14-20 04:19	Jan-14-20 04:38	Jan-14-20 04:57
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.0200 0.0200	<0.0196 0.0196	<0.0196 0.0196	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200
Toluene		<0.0200 0.0200	0.0652 0.0196	0.783 0.0196	0.00282 0.00202	<0.00202 0.00202	0.0369 0.00200
Ethylbenzene		0.180 0.0200	0.284 0.0196	1.42 0.0196	0.0129 0.00202	<0.00202 0.00202	0.127 0.00200
m,p-Xylenes		0.695 0.0400	1.41 0.0392	7.23 0.0392	0.0553 0.00403	0.00654 0.00404	0.699 0.00399
o-Xylene		0.498 0.0200	0.755 0.0196	3.15 0.0196	0.0456 0.00202	0.00534 0.00202	0.360 0.00200
Total Xylenes		1.19 0.0200	2.17 0.0196	10.4 0.0196	0.101 0.00202	0.0119 0.00202	1.06 0.00200
Total BTEX		1.37 0.0200	2.51 0.0196	12.6 0.0196	0.117 0.00202	0.0119 0.00202	1.22 0.00200
Select Anions By EPA 300	<i>Extracted:</i>	Jan-13-20 17:30	Jan-13-20 17:30	Jan-13-20 17:30	Jan-13-20 17:30	Jan-13-20 17:30	Jan-13-20 17:30
	<i>Analyzed:</i>	Jan-13-20 20:03	Jan-13-20 20:20	Jan-13-20 20:26	Jan-13-20 20:44	Jan-13-20 20:50	Jan-13-20 20:55
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<9.98 9.98	<9.94 9.94	<9.98 9.98	<9.88 9.88	<9.94 9.94	<10.1 10.1
TPH by SW8015 Mod	<i>Extracted:</i>	Jan-13-20 17:30	Jan-13-20 17:30	Jan-13-20 17:30	Jan-13-20 17:30	Jan-13-20 17:30	Jan-13-20 17:30
	<i>Analyzed:</i>	Jan-14-20 11:06	Jan-14-20 11:26	Jan-14-20 11:46	Jan-14-20 11:46	Jan-14-20 12:06	Jan-14-20 12:06
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		112 50.3	119 50.2	683 50.1	168 50.2	<50.2 50.2	411 50.3
Diesel Range Organics (DRO)		621 50.3	571 50.2	3240 50.1	1610 50.2	92.4 50.2	1910 50.3
Motor Oil Range Hydrocarbons (MRO)		<50.3 50.3	<50.2 50.2	241 50.1	128 50.2	<50.2 50.2	155 50.3
Total GRO-DRO		733 50.3	690 50.2	3920 50.1	1780 50.2	92.4 50.2	2320 50.3
Total TPH		733 50.3	690 50.2	4160 50.1	1910 50.2	92.4 50.2	2480 50.3

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

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

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 648878

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 2-24-30

Project Id: 012919074

Contact: Dan Moir

Project Location:

Date Received in Lab: Mon Jan-13-20 04:00 pm

Report Date: 16-JAN-20

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	648878-007	648878-008	648878-009	648878-010	648878-011	648878-012
	<i>Field Id:</i>	SW07	SW08	SW09	SW10	SW11	SW12
	<i>Depth:</i>	0-3 ft	0-3.5 ft	0-4 ft	0-2 ft	0-2 ft	0-4 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jan-09-20 12:00	Jan-09-20 12:05	Jan-09-20 12:10	Jan-09-20 12:20	Jan-09-20 12:25	Jan-09-20 12:30
BTEX by EPA 8021B	<i>Extracted:</i>	Jan-13-20 17:30	Jan-13-20 17:30	Jan-13-20 17:30	Jan-13-20 17:30	Jan-13-20 17:30	Jan-13-20 17:30
	<i>Analyzed:</i>	Jan-14-20 05:16	Jan-14-20 05:35	Jan-14-20 05:54	Jan-14-20 06:58	Jan-14-20 07:17	Jan-14-20 07:37
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00202 0.00202	<0.00202 0.00202	<0.0196 0.0196
Toluene		<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00202 0.00202	0.00431 0.00202	<0.0196 0.0196
Ethylbenzene		0.00369 0.00200	<0.00199 0.00199	0.00376 0.00198	<0.00202 0.00202	0.00557 0.00202	0.0703 0.0196
m,p-Xylenes		0.0152 0.00400	0.00528 0.00398	0.0263 0.00396	0.00986 0.00403	0.0100 0.00403	0.164 0.0392
o-Xylene		0.0123 0.00200	0.00306 0.00199	0.0133 0.00198	0.00614 0.00202	0.0138 0.00202	0.114 0.0196
Total Xylenes		0.0275 0.00200	0.00834 0.00199	0.0396 0.00198	0.0160 0.00202	0.0238 0.00202	0.278 0.0196
Total BTEX		0.0312 0.00200	0.00834 0.00199	0.0434 0.00198	0.0160 0.00202	0.0337 0.00202	0.348 0.0196
Select Anions By EPA 300	<i>Extracted:</i>	Jan-13-20 17:30	Jan-13-20 17:30	Jan-13-20 18:00	Jan-13-20 18:00	Jan-13-20 18:00	Jan-13-20 18:00
	<i>Analyzed:</i>	Jan-13-20 21:01	Jan-13-20 21:07	Jan-13-20 23:10	Jan-13-20 23:16	Jan-13-20 23:33	Jan-13-20 23:39
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<10.0 10.0	<10.0 10.0	<10.0 10.0	23.6 10.0	20.2 9.98	12.4 9.92
TPH by SW8015 Mod	<i>Extracted:</i>	Jan-13-20 17:30	Jan-13-20 17:30	Jan-13-20 17:30	Jan-13-20 17:30	Jan-14-20 11:00	Jan-14-20 11:00
	<i>Analyzed:</i>	Jan-14-20 12:26	Jan-14-20 12:26	Jan-14-20 12:47	Jan-14-20 12:47	Jan-14-20 15:20	Jan-14-20 15:41
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<50.2 50.2	<50.1 50.1	<50.1 50.1	<50.3 50.3	65.6 50.2
Diesel Range Organics (DRO)		<50.0 50.0	66.4 50.2	161 50.1	190 50.1	996 50.3	708 50.2
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.2 50.2	<50.1 50.1	<50.1 50.1	128 50.3	76.9 50.2
Total GRO-DRO		<50.0 50.0	66.4 50.2	161 50.1	190 50.1	996 50.3	774 50.2
Total TPH		<50.0 50.0	66.4 50.2	161 50.1	190 50.1	1120 50.3	851 50.2

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

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

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 648878

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 2-24-30

Project Id: 012919074

Contact: Dan Moir

Project Location:

Date Received in Lab: Mon Jan-13-20 04:00 pm

Report Date: 16-JAN-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	648878-013					
	Field Id:	SW13					
	Depth:	0-4 ft					
	Matrix:	SOIL					
	Sampled:	Jan-09-20 12:40					
BTEX by EPA 8021B	Extracted:	Jan-13-20 17:30					
	Analyzed:	Jan-14-20 07:56					
	Units/RL:	mg/kg RL					
Benzene		<0.0200 0.0200					
Toluene		0.0507 0.0200					
Ethylbenzene		0.265 0.0200					
m,p-Xylenes		1.42 0.0400					
o-Xylene		0.779 0.0200					
Total Xylenes		2.20 0.0200					
Total BTEX		2.51 0.0200					
Select Anions By EPA 300	Extracted:	Jan-13-20 18:00					
	Analyzed:	Jan-13-20 23:56					
	Units/RL:	mg/kg RL					
Chloride		<9.98 9.98					
TPH by SW8015 Mod	Extracted:	Jan-14-20 11:00					
	Analyzed:	Jan-14-20 16:10					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		373 50.3					
Diesel Range Organics (DRO)		1700 50.3					
Motor Oil Range Hydrocarbons (MRO)		146 50.3					
Total GRO-DRO		2070 50.3					
Total TPH		2220 50.3					

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

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

Jessica Kramer
Project Assistant



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: FS25
Lab Sample Id: 648878-001

Matrix: Soil
Date Collected: 01.09.20 11.00

Date Received: 01.13.20 16.00
Sample Depth: 4 ft

Analytical Method: Select Anions By EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3113138

Date Prep: 01.13.20 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	01.13.20 20.03	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3113145

Date Prep: 01.13.20 17.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	112	50.3	mg/kg	01.14.20 11.06		1
Diesel Range Organics (DRO)	C10C28DRO	621	50.3	mg/kg	01.14.20 11.06		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	01.14.20 11.06	U	1
Total GRO-DRO	PHC628	733	50.3	mg/kg	01.14.20 11.06		1
Total TPH	PHC635	733	50.3	mg/kg	01.14.20 11.06		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	128	%	70-135	01.14.20 11.06	
o-Terphenyl	84-15-1	124	%	70-135	01.14.20 11.06	



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: FS25
Lab Sample Id: 648878-001

Matrix: Soil
Date Collected: 01.09.20 11.00

Date Received: 01.13.20 16.00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.13.20 17.30

Basis: Wet Weight

Seq Number: 3113153

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	01.14.20 03.21	U	1
Toluene	108-88-3	<0.0200	0.0200	mg/kg	01.14.20 03.21	U	1
Ethylbenzene	100-41-4	0.180	0.0200	mg/kg	01.14.20 03.21		1
m,p-Xylenes	179601-23-1	0.695	0.0400	mg/kg	01.14.20 03.21		1
o-Xylene	95-47-6	0.498	0.0200	mg/kg	01.14.20 03.21		1
Total Xylenes	1330-20-7	1.19	0.0200	mg/kg	01.14.20 03.21		1
Total BTEX		1.37	0.0200	mg/kg	01.14.20 03.21		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99		%	70-130	01.14.20 03.21	
4-Bromofluorobenzene	460-00-4	115		%	70-130	01.14.20 03.21	



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS26**
Lab Sample Id: 648878-002

Matrix: Soil
Date Collected: 01.09.20 11.10

Date Received: 01.13.20 16.00
Sample Depth: 4 ft

Analytical Method: Select Anions By EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3113138

Date Prep: 01.13.20 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.94	9.94	mg/kg	01.13.20 20.20	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3113145

Date Prep: 01.13.20 17.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	119	50.2	mg/kg	01.14.20 11.26		1
Diesel Range Organics (DRO)	C10C28DRO	571	50.2	mg/kg	01.14.20 11.26		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	01.14.20 11.26	U	1
Total GRO-DRO	PHC628	690	50.2	mg/kg	01.14.20 11.26		1
Total TPH	PHC635	690	50.2	mg/kg	01.14.20 11.26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	01.14.20 11.26	
o-Terphenyl	84-15-1	114	%	70-135	01.14.20 11.26	



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS26**
Lab Sample Id: 648878-002

Matrix: Soil
Date Collected: 01.09.20 11.10

Date Received: 01.13.20 16.00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.13.20 17.30

Basis: Wet Weight

Seq Number: 3113153

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0196	0.0196	mg/kg	01.14.20 03.40	U	1
Toluene	108-88-3	0.0652	0.0196	mg/kg	01.14.20 03.40		1
Ethylbenzene	100-41-4	0.284	0.0196	mg/kg	01.14.20 03.40		1
m,p-Xylenes	179601-23-1	1.41	0.0392	mg/kg	01.14.20 03.40		1
o-Xylene	95-47-6	0.755	0.0196	mg/kg	01.14.20 03.40		1
Total Xylenes	1330-20-7	2.17	0.0196	mg/kg	01.14.20 03.40		1
Total BTEX		2.51	0.0196	mg/kg	01.14.20 03.40		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	01.14.20 03.40		
1,4-Difluorobenzene	540-36-3	100	%	70-130	01.14.20 03.40		



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: FS27
Lab Sample Id: 648878-003

Matrix: Soil
Date Collected: 01.09.20 11.15

Date Received: 01.13.20 16.00
Sample Depth: 4 ft

Analytical Method: Select Anions By EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3113138

Date Prep: 01.13.20 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	01.13.20 20.26	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3113145

Date Prep: 01.13.20 17.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	683	50.1	mg/kg	01.14.20 11.46		1
Diesel Range Organics (DRO)	C10C28DRO	3240	50.1	mg/kg	01.14.20 11.46		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	241	50.1	mg/kg	01.14.20 11.46		1
Total GRO-DRO	PHC628	3920	50.1	mg/kg	01.14.20 11.46		1
Total TPH	PHC635	4160	50.1	mg/kg	01.14.20 11.46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	132	%	70-135	01.14.20 11.46	
o-Terphenyl	84-15-1	127	%	70-135	01.14.20 11.46	



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: FS27
Lab Sample Id: 648878-003

Matrix: Soil
Date Collected: 01.09.20 11.15

Date Received: 01.13.20 16.00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.13.20 17.30

Basis: Wet Weight

Seq Number: 3113153

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0196	0.0196	mg/kg	01.14.20 03.59	U	1
Toluene	108-88-3	0.783	0.0196	mg/kg	01.14.20 03.59		1
Ethylbenzene	100-41-4	1.42	0.0196	mg/kg	01.14.20 03.59		1
m,p-Xylenes	179601-23-1	7.23	0.0392	mg/kg	01.14.20 03.59		1
o-Xylene	95-47-6	3.15	0.0196	mg/kg	01.14.20 03.59		1
Total Xylenes	1330-20-7	10.4	0.0196	mg/kg	01.14.20 03.59		1
Total BTEX		12.6	0.0196	mg/kg	01.14.20 03.59		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	129	%	70-130	01.14.20 03.59		
1,4-Difluorobenzene	540-36-3	100	%	70-130	01.14.20 03.59		



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS28**
Lab Sample Id: 648878-004

Matrix: Soil
Date Collected: 01.09.20 11.25

Date Received: 01.13.20 16.00
Sample Depth: 4 ft

Analytical Method: Select Anions By EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3113138

Date Prep: 01.13.20 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.88	9.88	mg/kg	01.13.20 20.44	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3113145

Date Prep: 01.13.20 17.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	168	50.2	mg/kg	01.14.20 11.46		1
Diesel Range Organics (DRO)	C10C28DRO	1610	50.2	mg/kg	01.14.20 11.46		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	128	50.2	mg/kg	01.14.20 11.46		1
Total GRO-DRO	PHC628	1780	50.2	mg/kg	01.14.20 11.46		1
Total TPH	PHC635	1910	50.2	mg/kg	01.14.20 11.46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	125	%	70-135	01.14.20 11.46	
o-Terphenyl	84-15-1	117	%	70-135	01.14.20 11.46	



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS28**
Lab Sample Id: 648878-004

Matrix: Soil
Date Collected: 01.09.20 11.25

Date Received: 01.13.20 16.00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.13.20 17.30

Basis: Wet Weight

Seq Number: 3113153

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.14.20 04.19	U	1
Toluene	108-88-3	0.00282	0.00202	mg/kg	01.14.20 04.19		1
Ethylbenzene	100-41-4	0.0129	0.00202	mg/kg	01.14.20 04.19		1
m,p-Xylenes	179601-23-1	0.0553	0.00403	mg/kg	01.14.20 04.19		1
o-Xylene	95-47-6	0.0456	0.00202	mg/kg	01.14.20 04.19		1
Total Xylenes	1330-20-7	0.101	0.00202	mg/kg	01.14.20 04.19		1
Total BTEX		0.117	0.00202	mg/kg	01.14.20 04.19		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	70-130	01.14.20 04.19		
1,4-Difluorobenzene	540-36-3	99	%	70-130	01.14.20 04.19		



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS29**
Lab Sample Id: 648878-005

Matrix: Soil
Date Collected: 01.09.20 11.30

Date Received: 01.13.20 16.00
Sample Depth: 4 ft

Analytical Method: Select Anions By EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3113138

Date Prep: 01.13.20 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.94	9.94	mg/kg	01.13.20 20.50	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3113145

Date Prep: 01.13.20 17.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	01.14.20 12.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	92.4	50.2	mg/kg	01.14.20 12.06		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	01.14.20 12.06	U	1
Total GRO-DRO	PHC628	92.4	50.2	mg/kg	01.14.20 12.06		1
Total TPH	PHC635	92.4	50.2	mg/kg	01.14.20 12.06		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	128	%	70-135	01.14.20 12.06	
o-Terphenyl	84-15-1	128	%	70-135	01.14.20 12.06	



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS29**
Lab Sample Id: 648878-005

Matrix: Soil
Date Collected: 01.09.20 11.30

Date Received: 01.13.20 16.00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.13.20 17.30

Basis: Wet Weight

Seq Number: 3113153

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.14.20 04.38	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.14.20 04.38	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.14.20 04.38	U	1
m,p-Xylenes	179601-23-1	0.00654	0.00404	mg/kg	01.14.20 04.38		1
o-Xylene	95-47-6	0.00534	0.00202	mg/kg	01.14.20 04.38		1
Total Xylenes	1330-20-7	0.0119	0.00202	mg/kg	01.14.20 04.38		1
Total BTEX		0.0119	0.00202	mg/kg	01.14.20 04.38		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	70-130	01.14.20 04.38		
4-Bromofluorobenzene	460-00-4	113	%	70-130	01.14.20 04.38		



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS30**
Lab Sample Id: 648878-006

Matrix: Soil
Date Collected: 01.09.20 11.40

Date Received: 01.13.20 16.00
Sample Depth: 4 ft

Analytical Method: Select Anions By EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3113138

Date Prep: 01.13.20 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	01.13.20 20.55	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3113145

Date Prep: 01.13.20 17.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	411	50.3	mg/kg	01.14.20 12.06		1
Diesel Range Organics (DRO)	C10C28DRO	1910	50.3	mg/kg	01.14.20 12.06		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	155	50.3	mg/kg	01.14.20 12.06		1
Total GRO-DRO	PHC628	2320	50.3	mg/kg	01.14.20 12.06		1
Total TPH	PHC635	2480	50.3	mg/kg	01.14.20 12.06		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	01.14.20 12.06	
o-Terphenyl	84-15-1	114	%	70-135	01.14.20 12.06	



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS30**
Lab Sample Id: 648878-006

Matrix: Soil
Date Collected: 01.09.20 11.40

Date Received: 01.13.20 16.00
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.13.20 17.30

Basis: Wet Weight

Seq Number: 3113153

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.14.20 04.57	U	1
Toluene	108-88-3	0.0369	0.00200	mg/kg	01.14.20 04.57		1
Ethylbenzene	100-41-4	0.127	0.00200	mg/kg	01.14.20 04.57		1
m,p-Xylenes	179601-23-1	0.699	0.00399	mg/kg	01.14.20 04.57		1
o-Xylene	95-47-6	0.360	0.00200	mg/kg	01.14.20 04.57		1
Total Xylenes	1330-20-7	1.06	0.00200	mg/kg	01.14.20 04.57		1
Total BTEX		1.22	0.00200	mg/kg	01.14.20 04.57		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	01.14.20 04.57		
4-Bromofluorobenzene	460-00-4	120	%	70-130	01.14.20 04.57		



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW07**
Lab Sample Id: 648878-007

Matrix: Soil
Date Collected: 01.09.20 12.00

Date Received: 01.13.20 16.00
Sample Depth: 0 - 3 ft

Analytical Method: Select Anions By EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3113138

Date Prep: 01.13.20 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	01.13.20 21.01	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3113145

Date Prep: 01.13.20 17.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	01.14.20 12.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	01.14.20 12.26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	01.14.20 12.26	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	01.14.20 12.26	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	01.14.20 12.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	01.14.20 12.26	
o-Terphenyl	84-15-1	115	%	70-135	01.14.20 12.26	



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW07**
Lab Sample Id: 648878-007

Matrix: Soil
Date Collected: 01.09.20 12.00

Date Received: 01.13.20 16.00
Sample Depth: 0 - 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.13.20 17.30

Basis: Wet Weight

Seq Number: 3113153

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.14.20 05.16	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.14.20 05.16	U	1
Ethylbenzene	100-41-4	0.00369	0.00200	mg/kg	01.14.20 05.16		1
m,p-Xylenes	179601-23-1	0.0152	0.00400	mg/kg	01.14.20 05.16		1
o-Xylene	95-47-6	0.0123	0.00200	mg/kg	01.14.20 05.16		1
Total Xylenes	1330-20-7	0.0275	0.00200	mg/kg	01.14.20 05.16		1
Total BTEX		0.0312	0.00200	mg/kg	01.14.20 05.16		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104		%	70-130	01.14.20 05.16	
4-Bromofluorobenzene	460-00-4	113		%	70-130	01.14.20 05.16	



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW08**
Lab Sample Id: 648878-008

Matrix: Soil
Date Collected: 01.09.20 12.05

Date Received: 01.13.20 16.00
Sample Depth: 0 - 3.5 ft

Analytical Method: Select Anions By EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3113138

Date Prep: 01.13.20 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	01.13.20 21.07	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3113145

Date Prep: 01.13.20 17.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	01.14.20 12.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	66.4	50.2	mg/kg	01.14.20 12.26		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	01.14.20 12.26	U	1
Total GRO-DRO	PHC628	66.4	50.2	mg/kg	01.14.20 12.26		1
Total TPH	PHC635	66.4	50.2	mg/kg	01.14.20 12.26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	01.14.20 12.26	
o-Terphenyl	84-15-1	109	%	70-135	01.14.20 12.26	



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW08**
Lab Sample Id: 648878-008

Matrix: Soil
Date Collected: 01.09.20 12.05

Date Received: 01.13.20 16.00
Sample Depth: 0 - 3.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.13.20 17.30

Basis: Wet Weight

Seq Number: 3113153

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	01.14.20 05.35	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	01.14.20 05.35	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	01.14.20 05.35	U	1
m,p-Xylenes	179601-23-1	0.00528	0.00398	mg/kg	01.14.20 05.35		1
o-Xylene	95-47-6	0.00306	0.00199	mg/kg	01.14.20 05.35		1
Total Xylenes	1330-20-7	0.00834	0.00199	mg/kg	01.14.20 05.35		1
Total BTEX		0.00834	0.00199	mg/kg	01.14.20 05.35		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	100	%	70-130	01.14.20 05.35		
1,4-Difluorobenzene	540-36-3	94	%	70-130	01.14.20 05.35		



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW09**
Lab Sample Id: 648878-009

Matrix: Soil
Date Collected: 01.09.20 12.10

Date Received: 01.13.20 16.00
Sample Depth: 0 - 4 ft

Analytical Method: Select Anions By EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3113141

Date Prep: 01.13.20 18.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	01.13.20 23.10	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3113145

Date Prep: 01.13.20 17.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.14.20 12.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	161	50.1	mg/kg	01.14.20 12.47		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.14.20 12.47	U	1
Total GRO-DRO	PHC628	161	50.1	mg/kg	01.14.20 12.47		1
Total TPH	PHC635	161	50.1	mg/kg	01.14.20 12.47		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	01.14.20 12.47	
o-Terphenyl	84-15-1	117	%	70-135	01.14.20 12.47	



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW09**
Lab Sample Id: 648878-009

Matrix: Soil
Date Collected: 01.09.20 12.10

Date Received: 01.13.20 16.00
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.13.20 17.30

Basis: Wet Weight

Seq Number: 3113153

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.14.20 05.54	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.14.20 05.54	U	1
Ethylbenzene	100-41-4	0.00376	0.00198	mg/kg	01.14.20 05.54		1
m,p-Xylenes	179601-23-1	0.0263	0.00396	mg/kg	01.14.20 05.54		1
o-Xylene	95-47-6	0.0133	0.00198	mg/kg	01.14.20 05.54		1
Total Xylenes	1330-20-7	0.0396	0.00198	mg/kg	01.14.20 05.54		1
Total BTEX		0.0434	0.00198	mg/kg	01.14.20 05.54		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	109		%	70-130	01.14.20 05.54	
1,4-Difluorobenzene	540-36-3	102		%	70-130	01.14.20 05.54	



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW10**
Lab Sample Id: 648878-010

Matrix: Soil
Date Collected: 01.09.20 12.20

Date Received: 01.13.20 16.00
Sample Depth: 0 - 2 ft

Analytical Method: Select Anions By EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3113141

Date Prep: 01.13.20 18.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.6	10.0	mg/kg	01.13.20 23.16		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3113145

Date Prep: 01.13.20 17.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.14.20 12.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	190	50.1	mg/kg	01.14.20 12.47		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.14.20 12.47	U	1
Total GRO-DRO	PHC628	190	50.1	mg/kg	01.14.20 12.47		1
Total TPH	PHC635	190	50.1	mg/kg	01.14.20 12.47		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	01.14.20 12.47	
o-Terphenyl	84-15-1	115	%	70-135	01.14.20 12.47	



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW10**
Lab Sample Id: 648878-010

Matrix: Soil
Date Collected: 01.09.20 12.20

Date Received: 01.13.20 16.00
Sample Depth: 0 - 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.13.20 17.30

Basis: Wet Weight

Seq Number: 3113153

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.14.20 06.58	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	01.14.20 06.58	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	01.14.20 06.58	U	1
m,p-Xylenes	179601-23-1	0.00986	0.00403	mg/kg	01.14.20 06.58		1
o-Xylene	95-47-6	0.00614	0.00202	mg/kg	01.14.20 06.58		1
Total Xylenes	1330-20-7	0.0160	0.00202	mg/kg	01.14.20 06.58		1
Total BTEX		0.0160	0.00202	mg/kg	01.14.20 06.58		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	100	%	70-130	01.14.20 06.58		
1,4-Difluorobenzene	540-36-3	93	%	70-130	01.14.20 06.58		



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW11**
Lab Sample Id: 648878-011

Matrix: Soil
Date Collected: 01.09.20 12.25

Date Received: 01.13.20 16.00
Sample Depth: 0 - 2 ft

Analytical Method: Select Anions By EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3113141

Date Prep: 01.13.20 18.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	20.2	9.98	mg/kg	01.13.20 23.33		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3113293

Date Prep: 01.14.20 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	01.14.20 15.20	U	1
Diesel Range Organics (DRO)	C10C28DRO	996	50.3	mg/kg	01.14.20 15.20		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	128	50.3	mg/kg	01.14.20 15.20		1
Total GRO-DRO	PHC628	996	50.3	mg/kg	01.14.20 15.20		1
Total TPH	PHC635	1120	50.3	mg/kg	01.14.20 15.20		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	01.14.20 15.20	
o-Terphenyl	84-15-1	116	%	70-135	01.14.20 15.20	



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW11**
Lab Sample Id: 648878-011

Matrix: Soil
Date Collected: 01.09.20 12.25

Date Received: 01.13.20 16.00
Sample Depth: 0 - 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.13.20 17.30

Basis: Wet Weight

Seq Number: 3113153

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	01.14.20 07.17	U	1
Toluene	108-88-3	0.00431	0.00202	mg/kg	01.14.20 07.17		1
Ethylbenzene	100-41-4	0.00557	0.00202	mg/kg	01.14.20 07.17		1
m,p-Xylenes	179601-23-1	0.0100	0.00403	mg/kg	01.14.20 07.17		1
o-Xylene	95-47-6	0.0138	0.00202	mg/kg	01.14.20 07.17		1
Total Xylenes	1330-20-7	0.0238	0.00202	mg/kg	01.14.20 07.17		1
Total BTEX		0.0337	0.00202	mg/kg	01.14.20 07.17		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	01.14.20 07.17		
1,4-Difluorobenzene	540-36-3	98	%	70-130	01.14.20 07.17		



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW12**
Lab Sample Id: 648878-012

Matrix: Soil
Date Collected: 01.09.20 12.30

Date Received: 01.13.20 16.00
Sample Depth: 0 - 4 ft

Analytical Method: Select Anions By EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3113141

Date Prep: 01.13.20 18.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.4	9.92	mg/kg	01.13.20 23.39		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3113293

Date Prep: 01.14.20 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	65.6	50.2	mg/kg	01.14.20 15.41		1
Diesel Range Organics (DRO)	C10C28DRO	708	50.2	mg/kg	01.14.20 15.41		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	76.9	50.2	mg/kg	01.14.20 15.41		1
Total GRO-DRO	PHC628	774	50.2	mg/kg	01.14.20 15.41		1
Total TPH	PHC635	851	50.2	mg/kg	01.14.20 15.41		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	127	%	70-135	01.14.20 15.41	
o-Terphenyl	84-15-1	122	%	70-135	01.14.20 15.41	



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW12**
Lab Sample Id: 648878-012

Matrix: Soil
Date Collected: 01.09.20 12.30

Date Received: 01.13.20 16.00
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.13.20 17.30

Basis: Wet Weight

Seq Number: 3113153

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0196	0.0196	mg/kg	01.14.20 07.37	U	1
Toluene	108-88-3	<0.0196	0.0196	mg/kg	01.14.20 07.37	U	1
Ethylbenzene	100-41-4	0.0703	0.0196	mg/kg	01.14.20 07.37		1
m,p-Xylenes	179601-23-1	0.164	0.0392	mg/kg	01.14.20 07.37		1
o-Xylene	95-47-6	0.114	0.0196	mg/kg	01.14.20 07.37		1
Total Xylenes	1330-20-7	0.278	0.0196	mg/kg	01.14.20 07.37		1
Total BTEX		0.348	0.0196	mg/kg	01.14.20 07.37		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100		%	70-130	01.14.20 07.37	
4-Bromofluorobenzene	460-00-4	110		%	70-130	01.14.20 07.37	



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW13**
Lab Sample Id: 648878-013

Matrix: Soil
Date Collected: 01.09.20 12.40

Date Received: 01.13.20 16.00
Sample Depth: 0 - 4 ft

Analytical Method: Select Anions By EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3113141

Date Prep: 01.13.20 18.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	01.13.20 23.56	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3113293

Date Prep: 01.14.20 11.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	373	50.3	mg/kg	01.14.20 16.10		1
Diesel Range Organics (DRO)	C10C28DRO	1700	50.3	mg/kg	01.14.20 16.10		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	146	50.3	mg/kg	01.14.20 16.10		1
Total GRO-DRO	PHC628	2070	50.3	mg/kg	01.14.20 16.10		1
Total TPH	PHC635	2220	50.3	mg/kg	01.14.20 16.10		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	132	%	70-135	01.14.20 16.10	
o-Terphenyl	84-15-1	133	%	70-135	01.14.20 16.10	



Certificate of Analytical Results 648878

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW13**
Lab Sample Id: 648878-013

Matrix: Soil
Date Collected: 01.09.20 12.40

Date Received: 01.13.20 16.00
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 01.13.20 17.30

Basis: Wet Weight

Seq Number: 3113153

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0200	0.0200	mg/kg	01.14.20 07.56	U	1
Toluene	108-88-3	0.0507	0.0200	mg/kg	01.14.20 07.56		1
Ethylbenzene	100-41-4	0.265	0.0200	mg/kg	01.14.20 07.56		1
m,p-Xylenes	179601-23-1	1.42	0.0400	mg/kg	01.14.20 07.56		1
o-Xylene	95-47-6	0.779	0.0200	mg/kg	01.14.20 07.56		1
Total Xylenes	1330-20-7	2.20	0.0200	mg/kg	01.14.20 07.56		1
Total BTEX		2.51	0.0200	mg/kg	01.14.20 07.56		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	01.14.20 07.56		
4-Bromofluorobenzene	460-00-4	109	%	70-130	01.14.20 07.56		



Flagging Criteria

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

****** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU Big Sinks 2-24-30

Analytical Method: Select Anions By EPA 300

Seq Number: 3113138

MB Sample Id: 7694270-1-BLK

Matrix: Solid

LCS Sample Id: 7694270-1-BKS

Prep Method: E300P

Date Prep: 01.13.20

LCSD Sample Id: 7694270-1-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	247	99	247	99	90-110	0	20	mg/kg	01.13.20 18:36	

Analytical Method: Select Anions By EPA 300

Seq Number: 3113141

MB Sample Id: 7694273-1-BLK

Matrix: Solid

LCS Sample Id: 7694273-1-BKS

Prep Method: E300P

Date Prep: 01.13.20

LCSD Sample Id: 7694273-1-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	248	99	248	99	90-110	0	20	mg/kg	01.13.20 21:42	

Analytical Method: Select Anions By EPA 300

Seq Number: 3113138

Parent Sample Id: 648831-021

Matrix: Soil

MS Sample Id: 648831-021 S

Prep Method: E300P

Date Prep: 01.13.20

MSD Sample Id: 648831-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	7.07	200	199	96	198	95	90-110	1	20	mg/kg	01.13.20 18:52	

Analytical Method: Select Anions By EPA 300

Seq Number: 3113138

Parent Sample Id: 648878-001

Matrix: Soil

MS Sample Id: 648878-001 S

Prep Method: E300P

Date Prep: 01.13.20

MSD Sample Id: 648878-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6.45	199	196	95	196	95	90-110	0	20	mg/kg	01.13.20 20:09	

Analytical Method: Select Anions By EPA 300

Seq Number: 3113141

Parent Sample Id: 648838-003

Matrix: Soil

MS Sample Id: 648838-003 S

Prep Method: E300P

Date Prep: 01.13.20

MSD Sample Id: 648838-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	10600	203	10800	99	10800	99	90-110	0	20	mg/kg	01.13.20 22:00	

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

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

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

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



LT Environmental, Inc.

PLU Big Sinks 2-24-30

Analytical Method: Select Anions By EPA 300

Seq Number: 3113141

Parent Sample Id: 648878-010

Matrix: Soil

MS Sample Id: 648878-010 S

Prep Method: E300P

Date Prep: 01.13.20

MSD Sample Id: 648878-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	23.6	200	217	97	213	96	90-110	2	20	mg/kg	01.13.20 23:21	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3113145

MB Sample Id: 7694242-1-BLK

Matrix: Solid

LCS Sample Id: 7694242-1-BKS

Prep Method: SW8015P

Date Prep: 01.13.20

LCSD Sample Id: 7694242-1-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	1270	127	1280	128	70-135	1	35	mg/kg	01.14.20 04:49	
Diesel Range Organics (DRO)	<50.0	1000	1280	128	1160	116	70-135	10	35	mg/kg	01.14.20 04:49	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		134		119		70-135	%	01.14.20 04:49
o-Terphenyl	107		122		111		70-135	%	01.14.20 04:49

Analytical Method: TPH by SW8015 Mod

Seq Number: 3113293

MB Sample Id: 7694298-1-BLK

Matrix: Solid

LCS Sample Id: 7694298-1-BKS

Prep Method: SW8015P

Date Prep: 01.14.20

LCSD Sample Id: 7694298-1-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	728	73	727	73	70-135	0	35	mg/kg	01.14.20 15:00	
Diesel Range Organics (DRO)	<50.0	1000	741	74	749	75	70-135	1	35	mg/kg	01.14.20 15:00	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	128		127		127		70-135	%	01.14.20 15:00
o-Terphenyl	124		126		119		70-135	%	01.14.20 15:00

Analytical Method: TPH by SW8015 Mod

Seq Number: 3113145

Matrix: Solid

MB Sample Id: 7694242-1-BLK

Prep Method: SW8015P

Date Prep: 01.13.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.14.20 04:29	

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

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

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

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



LT Environmental, Inc.

PLU Big Sinks 2-24-30

Analytical Method: TPH by SW8015 Mod

Seq Number: 3113293

Matrix: Solid

Prep Method: SW8015P

Date Prep: 01.14.20

MB Sample Id: 7694298-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.14.20 14:40	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3113145

Matrix: Soil

Prep Method: SW8015P

Date Prep: 01.13.20

Parent Sample Id: 648831-021

MS Sample Id: 648831-021 S

MSD Sample Id: 648831-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.2	1000	798	80	837	84	70-135	5	35	mg/kg	01.14.20 05:48	
Diesel Range Organics (DRO)	<50.2	1000	714	71	746	75	70-135	4	35	mg/kg	01.14.20 05:48	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	133		139	**	70-135	%	01.14.20 05:48
o-Terphenyl	127		131		70-135	%	01.14.20 05:48

Analytical Method: TPH by SW8015 Mod

Seq Number: 3113293

Matrix: Soil

Prep Method: SW8015P

Date Prep: 01.14.20

Parent Sample Id: 648878-011

MS Sample Id: 648878-011 S

MSD Sample Id: 648878-011 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	858	86	859	86	70-135	0	35	mg/kg	01.15.20 16:42	
Diesel Range Organics (DRO)	996	1000	1670	67	1220	22	70-135	31	35	mg/kg	01.15.20 16:42	X

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		86		70-135	%	01.15.20 16:42
o-Terphenyl	82		76		70-135	%	01.15.20 16:42

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. = $\text{Log}(\text{Sample Duplicate}) - \text{Log}(\text{Original Sample})$

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

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



LT Environmental, Inc.

PLU Big Sinks 2-24-30

Analytical Method: BTEX by EPA 8021B

Seq Number: 3113153

MB Sample Id: 7694260-1-BLK

Matrix: Solid

LCS Sample Id: 7694260-1-BKS

Prep Method: SW5030B

Date Prep: 01.13.20

LCSD Sample Id: 7694260-1-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	0.102	102	0.109	109	70-130	7	35	mg/kg	01.14.20 01:26	
Toluene	<0.00200	0.100	0.101	101	0.108	108	70-130	7	35	mg/kg	01.14.20 01:26	
Ethylbenzene	<0.00200	0.100	0.101	101	0.108	108	71-129	7	35	mg/kg	01.14.20 01:26	
m,p-Xylenes	<0.00400	0.200	0.203	102	0.215	108	70-135	6	35	mg/kg	01.14.20 01:26	
o-Xylene	<0.00200	0.100	0.102	102	0.109	109	71-133	7	35	mg/kg	01.14.20 01:26	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		101		103		70-130	%	01.14.20 01:26
4-Bromofluorobenzene	100		108		108		70-130	%	01.14.20 01:26

Analytical Method: BTEX by EPA 8021B

Seq Number: 3113153

Parent Sample Id: 648849-004

Matrix: Soil

MS Sample Id: 648849-004 S

Prep Method: SW5030B

Date Prep: 01.13.20

MSD Sample Id: 648849-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0930	92	0.116	116	70-130	22	35	mg/kg	01.14.20 02:05	
Toluene	<0.00202	0.101	0.0910	90	0.113	113	70-130	22	35	mg/kg	01.14.20 02:05	
Ethylbenzene	<0.00202	0.101	0.0910	90	0.114	114	71-129	22	35	mg/kg	01.14.20 02:05	
m,p-Xylenes	<0.00403	0.202	0.181	90	0.226	113	70-135	22	35	mg/kg	01.14.20 02:05	
o-Xylene	<0.00202	0.101	0.0907	90	0.114	114	71-133	23	35	mg/kg	01.14.20 02:05	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		105		70-130	%	01.14.20 02:05
4-Bromofluorobenzene	105		111		70-130	%	01.14.20 02:05

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

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

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

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



Chain of Custody

Work Order No: 1618878

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 2

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Little
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:	dmair@xenco.com mcafee@xenco.com

Program: ☐ UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Inland ☐ State of Project:	
Reporting Level: ☐ I ☐ II ☐ III ☐ IV ☐ V	Deliverables: ☐ EDD ☐ ADAPT ☐ Other:

Project Name:	PLV Big Swks 2-24-30	Turn Around	ANALYSIS REQUEST																Work Order Notes					
Project Number:	012919074	Routine ☐																	TAT starts the day received by the lab, if received by 4:30pm					
P.O. Number:	2RF-5422	Rush: 3day																						
Sampler's Name:	Robert McAfee	Due Date:																	Sample Comments					
SAMPLE RECEIPT Temperature (°C): 0.6 Received Inlet: Yes ☒ No ☐ Cooler Custody Seals: Yes ☒ No ☐ Sample Custody Seals: Yes ☒ No ☐			Temp Blank: Yes ☒ No ☐	Wet Ice: Yes ☒ No ☐	Thermometer ID: TMM007	Correction Factor: -0.2	Total Containers: 13																	
Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0-8021)	Chloride (EPA 300.0)																
FS25	S	01/09/20	1100	4'	1	X	X	X																
FS26			1110	4'		X	X	X																
FS27			1115	4'		X	X	X																
FS28			1125	4'		X	X	X																
FS29			1130	4'		X	X	X																
FS30			1140	4'		X	X	X																
SW07			1200	0-3'		X	X	X																
SW08			1205	0-3.5'		X	X	X																
SW09			1210	0-4'		X	X	X																
SW10			1220	0-2'		X	X	X																

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

Office: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client. If such losses are due to circumstances beyond the control of Xenco, a minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>Robt McAfee</i>	<i>[Signature]</i>	11/3/20 16:00			
		2			
		4			
		6			



Chain of Custody

Work Order No: 1688878

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 2 of 2

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Litrel
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@xenco.com kmlitrel@xenco.com

Project Name:	PLU Big Sinks 2-24-30	Turn Around	
Project Number:	012919074	Routine	☐
P.O. Number:	2 RP-5422	Rush:	3 day
Sampler's Name:	Robert McAfee	Due Date:	

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EPA)	BTEX (EPA)	Chloride	Sample Comments
SW11	S	01/09/20	1225	0-2'	1	X	X	X	Composite ↑
SW12			1230	0-4'	1	X	X	X	
SW13	↑	↑	1240	0-4'	1	X	X	X	

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		1/13/20 16:00			

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 01.13.2020 04.00.00 PM

Work Order #: 648878

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)?	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: 01.13.2020

Checklist reviewed by:



Jessica Kramer

Date: 01.14.2020

Analytical Report 651637

for
LT Environmental, Inc.

Project Manager: Dan Moir

Big Sinks 2-24-30

012919074

07-FEB-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)



07-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **651637**

Big Sinks 2-24-30

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) 651637. 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. 651637 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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

**Sample Cross Reference 651637****LT Environmental, Inc., Arvada, CO**

Big Sinks 2-24-30

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS17A	S	02-06-20 11:10	4 ft	651637-001
FS21A	S	02-06-20 11:30	5 ft	651637-002
FS28A	S	02-06-20 11:50	5 ft	651637-003
FS30A	S	02-06-20 12:15	5 ft	651637-004
SW14	S	02-06-20 13:00	0 - 3 ft	651637-005
SW15	S	02-06-20 13:05	0 - 2 ft	651637-006
FS27A	S	02-06-20 14:00	6 ft	651637-007



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Big Sinks 2-24-30

Project ID: 012919074
Work Order Number(s): 651637

Report Date: 07-FEB-20
Date Received: 02/06/2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3115847 BTEX by EPA 8021B

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



Certificate of Analysis Summary 651637

LT Environmental, Inc., Arvada, CO

Project Name: Big Sinks 2-24-30

Project Id: 012919074

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu Feb-06-20 04:38 pm

Report Date: 07-FEB-20

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	651637-001	651637-002	651637-003	651637-004	651637-005	651637-006
	<i>Field Id:</i>	FS17A	FS21A	FS28A	FS30A	SW14	SW15
	<i>Depth:</i>	4- ft	5- ft	5- ft	5- ft	0-3 ft	0-2 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Feb-06-20 11:10	Feb-06-20 11:30	Feb-06-20 11:50	Feb-06-20 12:15	Feb-06-20 13:00	Feb-06-20 13:05
BTEX by EPA 8021B	<i>Extracted:</i>	Feb-06-20 17:00	Feb-06-20 17:00	Feb-06-20 17:00	Feb-06-20 17:00	Feb-06-20 17:00	Feb-06-20 17:00
	<i>Analyzed:</i>	Feb-07-20 00:59	Feb-07-20 01:20	Feb-07-20 01:40	Feb-07-20 02:00	Feb-07-20 02:21	Feb-07-20 02:41
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202
Toluene		<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202
Ethylbenzene		<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202
m,p-Xylenes		<0.00398 0.00398	<0.00402 0.00402	<0.00400 0.00400	<0.00399 0.00399	<0.00402 0.00402	<0.00403 0.00403
o-Xylene		<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202
Total Xylenes		<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202
Total BTEX		<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202
Chloride by EPA 300	<i>Extracted:</i>	Feb-06-20 17:25	Feb-06-20 17:25	Feb-06-20 17:25	Feb-06-20 17:25	Feb-06-20 17:25	Feb-06-20 17:25
	<i>Analyzed:</i>	Feb-06-20 19:55	Feb-06-20 20:01	Feb-06-20 20:07	Feb-06-20 20:13	Feb-06-20 20:18	Feb-06-20 20:36
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		10.2 10.0	<10.0 10.0	16.2 10.1	11.6 10.1	<10.0 10.0	<10.0 10.0
TPH by SW8015 Mod	<i>Extracted:</i>	Feb-06-20 17:30	Feb-06-20 17:30	Feb-06-20 17:30	Feb-06-20 17:30	Feb-06-20 17:30	Feb-06-20 17:30
	<i>Analyzed:</i>	Feb-06-20 22:30	Feb-06-20 22:30	Feb-06-20 22:49	Feb-06-20 22:49	Feb-06-20 23:09	Feb-06-20 23:29
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.2 50.2	<49.8 49.8	<50.2 50.2
Diesel Range Organics (DRO)		<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.2 50.2	<49.8 49.8	<50.2 50.2
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.2 50.2	<49.8 49.8	<50.2 50.2
Total GRO-DRO		<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.2 50.2	<49.8 49.8	<50.2 50.2
Total TPH		<49.9 49.9	<49.8 49.8	<50.0 50.0	<50.2 50.2	<49.8 49.8	<50.2 50.2

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

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

Version: 1.9%

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 651637

LT Environmental, Inc., Arvada, CO

Project Name: Big Sinks 2-24-30

Project Id: 012919074

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu Feb-06-20 04:38 pm

Report Date: 07-FEB-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	651637-007					
	Field Id:	FS27A					
	Depth:	6- ft					
	Matrix:	SOIL					
	Sampled:	Feb-06-20 14:00					
BTEX by EPA 8021B	Extracted:	Feb-06-20 17:00					
	Analyzed:	Feb-07-20 03:02					
	Units/RL:	mg/kg RL					
Benzene		<0.00201 0.00201					
Toluene		<0.00201 0.00201					
Ethylbenzene		<0.00201 0.00201					
m,p-Xylenes		<0.00402 0.00402					
o-Xylene		<0.00201 0.00201					
Total Xylenes		<0.00201 0.00201					
Total BTEX		<0.00201 0.00201					
Chloride by EPA 300	Extracted:	Feb-06-20 17:25					
	Analyzed:	Feb-06-20 20:42					
	Units/RL:	mg/kg RL					
Chloride		<9.98 9.98					
TPH by SW8015 Mod	Extracted:	Feb-06-20 17:30					
	Analyzed:	Feb-06-20 23:29					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0					
Diesel Range Organics (DRO)		<50.0 50.0					
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0					
Total GRO-DRO		<50.0 50.0					
Total TPH		<50.0 50.0					

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

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

Version: 1.0%

Jessica Kramer
Project Assistant



Certificate of Analytical Results 651637

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **FS17A**
Lab Sample Id: 651637-001

Matrix: Soil
Date Collected: 02.06.20 11.10

Date Received: 02.06.20 16.38
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3115855

Date Prep: 02.06.20 17.25

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.2	10.0	mg/kg	02.06.20 19.55		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3115871

Date Prep: 02.06.20 17.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.06.20 22.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.06.20 22.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.06.20 22.30	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	02.06.20 22.30	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.06.20 22.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	02.06.20 22.30	
o-Terphenyl	84-15-1	103	%	70-135	02.06.20 22.30	



Certificate of Analytical Results 651637

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **FS17A**
Lab Sample Id: 651637-001

Matrix: Soil
Date Collected: 02.06.20 11.10

Date Received: 02.06.20 16.38
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.06.20 17.00

Basis: Wet Weight

Seq Number: 3115847

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.07.20 00.59	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.07.20 00.59	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.07.20 00.59	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.07.20 00.59	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.07.20 00.59	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.07.20 00.59	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.07.20 00.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	02.07.20 00.59		
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.07.20 00.59		



Certificate of Analytical Results 651637

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **FS21A**
Lab Sample Id: 651637-002

Matrix: Soil
Date Collected: 02.06.20 11.30

Date Received: 02.06.20 16.38
Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3115855

Date Prep: 02.06.20 17.25

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	02.06.20 20.01	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3115871

Date Prep: 02.06.20 17.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.06.20 22.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.06.20 22.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.06.20 22.30	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	02.06.20 22.30	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.06.20 22.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	02.06.20 22.30	
o-Terphenyl	84-15-1	104	%	70-135	02.06.20 22.30	



Certificate of Analytical Results 651637

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **FS21A**
Lab Sample Id: 651637-002

Matrix: Soil
Date Collected: 02.06.20 11.30

Date Received: 02.06.20 16.38
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.06.20 17.00

Basis: Wet Weight

Seq Number: 3115847

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.07.20 01.20	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.07.20 01.20	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.07.20 01.20	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.07.20 01.20	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.07.20 01.20	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.07.20 01.20	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.07.20 01.20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.07.20 01.20		
4-Bromofluorobenzene	460-00-4	101	%	70-130	02.07.20 01.20		



Certificate of Analytical Results 651637

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **FS28A** Matrix: Soil Date Received: 02.06.20 16.38
 Lab Sample Id: 651637-003 Date Collected: 02.06.20 11.50 Sample Depth: 5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 02.06.20 17.25 Basis: Wet Weight
 Seq Number: 3115855

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16.2	10.1	mg/kg	02.06.20 20.07		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 02.06.20 17.30 Basis: Wet Weight
 Seq Number: 3115871

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.06.20 22.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.06.20 22.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.06.20 22.49	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.06.20 22.49	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.06.20 22.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	02.06.20 22.49	
o-Terphenyl	84-15-1	100	%	70-135	02.06.20 22.49	



Certificate of Analytical Results 651637

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **FS28A**
Lab Sample Id: 651637-003

Matrix: Soil
Date Collected: 02.06.20 11.50

Date Received: 02.06.20 16.38
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.06.20 17.00

Basis: Wet Weight

Seq Number: 3115847

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.07.20 01.40	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.07.20 01.40	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.07.20 01.40	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.07.20 01.40	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.07.20 01.40	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.07.20 01.40	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.07.20 01.40	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	100	%	70-130	02.07.20 01.40		
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.07.20 01.40		



Certificate of Analytical Results 651637

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **FS30A**
Lab Sample Id: 651637-004

Matrix: Soil
Date Collected: 02.06.20 12.15

Date Received: 02.06.20 16.38
Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3115855

Date Prep: 02.06.20 17.25

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.6	10.1	mg/kg	02.06.20 20.13		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3115871

Date Prep: 02.06.20 17.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.06.20 22.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	02.06.20 22.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.06.20 22.49	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	02.06.20 22.49	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	02.06.20 22.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	02.06.20 22.49	
o-Terphenyl	84-15-1	101	%	70-135	02.06.20 22.49	



Certificate of Analytical Results 651637

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **FS30A**
Lab Sample Id: 651637-004

Matrix: Soil
Date Collected: 02.06.20 12.15

Date Received: 02.06.20 16.38
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.06.20 17.00

Basis: Wet Weight

Seq Number: 3115847

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.07.20 02.00	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.07.20 02.00	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.07.20 02.00	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.07.20 02.00	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.07.20 02.00	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.07.20 02.00	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.07.20 02.00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	02.07.20 02.00		
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.07.20 02.00		



Certificate of Analytical Results 651637

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW14** Matrix: Soil Date Received: 02.06.20 16.38
 Lab Sample Id: 651637-005 Date Collected: 02.06.20 13.00 Sample Depth: 0 - 3 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 02.06.20 17.25 Basis: Wet Weight
 Seq Number: 3115855

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	02.06.20 20.18	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 02.06.20 17.30 Basis: Wet Weight
 Seq Number: 3115871

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.06.20 23.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	02.06.20 23.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.06.20 23.09	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	02.06.20 23.09	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	02.06.20 23.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	02.06.20 23.09	
o-Terphenyl	84-15-1	102	%	70-135	02.06.20 23.09	



Certificate of Analytical Results 651637

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW14**
 Lab Sample Id: 651637-005

Matrix: Soil
 Date Collected: 02.06.20 13.00

Date Received: 02.06.20 16.38
 Sample Depth: 0 - 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.06.20 17.00

Basis: Wet Weight

Seq Number: 3115847

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.07.20 02.21	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.07.20 02.21	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.07.20 02.21	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.07.20 02.21	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.07.20 02.21	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.07.20 02.21	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.07.20 02.21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.07.20 02.21		
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.07.20 02.21		



Certificate of Analytical Results 651637

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW15** Matrix: Soil Date Received: 02.06.20 16.38
 Lab Sample Id: 651637-006 Date Collected: 02.06.20 13.05 Sample Depth: 0 - 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 02.06.20 17.25 Basis: Wet Weight
 Seq Number: 3115855

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	02.06.20 20.36	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 02.06.20 17.30 Basis: Wet Weight
 Seq Number: 3115871

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.06.20 23.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	02.06.20 23.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.06.20 23.29	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	02.06.20 23.29	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	02.06.20 23.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	02.06.20 23.29	
o-Terphenyl	84-15-1	103	%	70-135	02.06.20 23.29	



Certificate of Analytical Results 651637

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW15**
Lab Sample Id: 651637-006

Matrix: Soil
Date Collected: 02.06.20 13.05

Date Received: 02.06.20 16.38
Sample Depth: 0 - 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3115847

Date Prep: 02.06.20 17.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.07.20 02.41	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.07.20 02.41	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.07.20 02.41	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.07.20 02.41	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.07.20 02.41	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.07.20 02.41	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.07.20 02.41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	99	%	70-130	02.07.20 02.41		
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.07.20 02.41		



Certificate of Analytical Results 651637

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: FS27A
Lab Sample Id: 651637-007

Matrix: Soil
Date Collected: 02.06.20 14.00

Date Received: 02.06.20 16.38
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3115855

Date Prep: 02.06.20 17.25

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	02.06.20 20.42	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3115871

Date Prep: 02.06.20 17.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.06.20 23.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.06.20 23.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.06.20 23.29	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.06.20 23.29	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.06.20 23.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	02.06.20 23.29	
o-Terphenyl	84-15-1	101	%	70-135	02.06.20 23.29	



Certificate of Analytical Results 651637

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **FS27A**
Lab Sample Id: 651637-007

Matrix: Soil
Date Collected: 02.06.20 14.00

Date Received: 02.06.20 16.38
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.06.20 17.00

Basis: Wet Weight

Seq Number: 3115847

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.07.20 03.02	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.07.20 03.02	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.07.20 03.02	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.07.20 03.02	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.07.20 03.02	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.07.20 03.02	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.07.20 03.02	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.07.20 03.02		
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.07.20 03.02		



Flagging Criteria

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

****** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

Big Sinks 2-24-30

Analytical Method: Chloride by EPA 300

Seq Number: 3115855

MB Sample Id: 7696182-1-BLK

Matrix: Solid

LCS Sample Id: 7696182-1-BKS

Prep Method: E300P

Date Prep: 02.06.20

LCSD Sample Id: 7696182-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	252	101	253	101	90-110	0	20	mg/kg	02.06.20 19:26	

Analytical Method: Chloride by EPA 300

Seq Number: 3115855

Parent Sample Id: 651629-003

Matrix: Soil

MS Sample Id: 651629-003 S

Prep Method: E300P

Date Prep: 02.06.20

MSD Sample Id: 651629-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	12400	2000	14200	90	14200	90	90-110	0	20	mg/kg	02.06.20 21:05	

Analytical Method: Chloride by EPA 300

Seq Number: 3115855

Parent Sample Id: 651636-001

Matrix: Soil

MS Sample Id: 651636-001 S

Prep Method: E300P

Date Prep: 02.06.20

MSD Sample Id: 651636-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	394	200	604	105	604	105	90-110	0	20	mg/kg	02.06.20 19:43	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3115871

MB Sample Id: 7696210-1-BLK

Matrix: Solid

LCS Sample Id: 7696210-1-BKS

Prep Method: SW8015P

Date Prep: 02.06.20

LCSD Sample Id: 7696210-1-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	1060	106	1140	114	70-135	7	35	mg/kg	02.06.20 20:51	
Diesel Range Organics (DRO)	<50.0	1000	968	97	985	99	70-135	2	35	mg/kg	02.06.20 20:51	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		116		125		70-135	%	02.06.20 20:51
o-Terphenyl	106		104		110		70-135	%	02.06.20 20:51

Analytical Method: TPH by SW8015 Mod

Seq Number: 3115871

Matrix: Solid

MB Sample Id: 7696210-1-BLK

Prep Method: SW8015P

Date Prep: 02.06.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.07.20 09:46	

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

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

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

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



LT Environmental, Inc.

Big Sinks 2-24-30

Analytical Method: TPH by SW8015 Mod

Seq Number: 3115871

Parent Sample Id: 651630-001

Matrix: Soil

MS Sample Id: 651630-001 S

Prep Method: SW8015P

Date Prep: 02.06.20

MSD Sample Id: 651630-001 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)	<50.3	1010	1130	112	1130	113	70-135	0	35	mg/kg	02.06.20 21:11	
Diesel Range Organics (DRO)	65.4	1010	1210	113	1050	99	70-135	14	35	mg/kg	02.06.20 21:11	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	126		122		70-135	%	02.06.20 21:11
o-Terphenyl	116		123		70-135	%	02.06.20 21:11

Analytical Method: BTEX by EPA 8021B

Seq Number: 3115847

MB Sample Id: 7696180-1-BLK

Matrix: Solid

LCS Sample Id: 7696180-1-BKS

Prep Method: SW5030B

Date Prep: 02.06.20

LCSD Sample Id: 7696180-1-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	0.110	110	70-130	2	35	mg/kg	02.06.20 22:36	
Toluene	<0.00200	0.100	0.104	104	0.105	105	70-130	1	35	mg/kg	02.06.20 22:36	
Ethylbenzene	<0.00200	0.100	0.0996	100	0.101	101	71-129	1	35	mg/kg	02.06.20 22:36	
m,p-Xylenes	<0.00400	0.200	0.204	102	0.209	105	70-135	2	35	mg/kg	02.06.20 22:36	
o-Xylene	<0.00200	0.100	0.103	103	0.105	105	71-133	2	35	mg/kg	02.06.20 22:36	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		104		105		70-130	%	02.06.20 22:36
4-Bromofluorobenzene	96		96		98		70-130	%	02.06.20 22:36

Analytical Method: BTEX by EPA 8021B

Seq Number: 3115847

Parent Sample Id: 651629-001

Matrix: Soil

MS Sample Id: 651629-001 S

Prep Method: SW5030B

Date Prep: 02.06.20

MSD Sample Id: 651629-001 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	0.111	111	0.104	105	70-130	7	35	mg/kg	02.06.20 23:17	
Toluene	<0.00200	0.0998	0.104	104	0.0985	99	70-130	5	35	mg/kg	02.06.20 23:17	
Ethylbenzene	<0.00200	0.0998	0.0982	98	0.0932	94	71-129	5	35	mg/kg	02.06.20 23:17	
m,p-Xylenes	<0.00399	0.200	0.200	100	0.191	96	70-135	5	35	mg/kg	02.06.20 23:17	
o-Xylene	<0.00200	0.0998	0.101	101	0.0961	97	71-133	5	35	mg/kg	02.06.20 23:17	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		104		70-130	%	02.06.20 23:17
4-Bromofluorobenzene	102		96		70-130	%	02.06.20 23:17

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

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

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

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



Houston, TX (281) 240-4200 Dallas, TX (214) 502-0300 San Antonio, TX (210) 509-3334
Midland, TX (432-704-5440) EL Paso, TX (915)585-3443 Lubbock, TX (806)794-1296
Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000)

Chain of Custody

Work Order No: 10511637

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	533 W. Merand St
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Culbuck, NM 88220
Phone:	(432) 236-3849	Email:	jhill@ltenv.com, dmoir@ltenv.com

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

Project Name:	Bg Sinks 2-24-30	Turn Around	
Project Number:	012919074	Routine	☐
P.O. Number:	GRP-5433	Rush:	24 hr
Sampler's Name:	Jeremy Hill	Due Date:	2/1/20

SAMPLE RECEIPT	Temp Blank:	☒ Yes	☐ No	Wet Ice:	☒ Yes	☐ No
Temperature (°C):	8.8	Thermometer ID				
Received In tact:	Yes	No	Correction Factor:			
Cooler Custody Seals:	Yes	No	Total Containers:			
Sample Custody Seals:	Yes	No	1			

3:32 PM

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EPA 8015)	BTEX (EPA 0-8021)	Chloride (EPA 300.0)	Sample Comments
FS17A	S	2/6/20	1110	4'	1	X	X	X	damp site
FS21A	S		1130	5'					
FS28A	S		1150	5'					
FS30A	S		1215	5'					
SW14	S		1300	0-3'					
SW15	S		1305	0-3'					
FS27A	S		1400	6'					
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								
	S								

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

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to 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
		2/6/20 14:38			

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02.06.2020 04.38.00 PM

Work Order #: 651637

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Elizabeth McClellan

Date: 02.06.2020

Checklist reviewed by:



Jessica Kramer

Date: 02.07.2020

Analytical Report 651808

**for
LT Environmental, Inc.**

Project Manager: Dan Moir

Big Sinks 2-24-30

012919074

26-FEB-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)



26-FEB-20

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

Reference: XENCO Report No(s): **651808**
Big Sinks 2-24-30
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) 651808. 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. 651808 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer
Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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

**Sample Cross Reference 651808****LT Environmental, Inc., Arvada, CO**

Big Sinks 2-24-30

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW17	S	02-07-20 10:35	0 - 4 ft	651808-001
SW18	S	02-07-20 10:40	0 - 6 ft	651808-002
SW19	S	02-07-20 11:20	0 - 4 ft	651808-003
SW20	S	02-07-20 12:20	0 - 3 ft	651808-004
SW16	S	02-07-20 13:30	0 - 5 ft	651808-005
FS33	S	02-07-20 13:45	3 ft	651808-006



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *Big Sinks 2-24-30*

Project ID: 012919074
Work Order Number(s): 651808

Report Date: 26-FEB-20
Date Received: 02/10/2020

Sample receipt non conformances and comments:

V1.001 - Revision (client email) Corrected sample names as follows below. JK 02/26/20

SW20 --> SW19

SW22 --> SW20

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3116093 BTEX by EPA 8021B

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



Certificate of Analysis Summary 651808

LT Environmental, Inc., Arvada, CO

Project Name: Big Sinks 2-24-30

Project Id: 012919074

Contact: Dan Moir

Project Location:

Date Received in Lab: Mon Feb-10-20 08:10 am

Report Date: 26-FEB-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	651808-001	651808-002	651808-003	651808-004	651808-005	651808-006
	Field Id:	SW17	SW18	SW19	SW20	SW16	FS33
	Depth:	0-4 ft	0-6 ft	0-4 ft	0-3 ft	0-5 ft	3- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Feb-07-20 10:35	Feb-07-20 10:40	Feb-07-20 11:20	Feb-07-20 12:20	Feb-07-20 13:30	Feb-07-20 13:45
BTEX by EPA 8021B	Extracted:	Feb-10-20 10:00	Feb-10-20 10:00	Feb-10-20 10:00	Feb-10-20 10:00	Feb-10-20 10:00	Feb-10-20 10:00
	Analyzed:	Feb-10-20 15:03	Feb-10-20 15:24	Feb-10-20 15:44	Feb-10-20 17:06	Feb-10-20 17:26	Feb-10-20 17:46
	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	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201
Toluene		<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201
Ethylbenzene		<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201
m,p-Xylenes		<0.00404 0.00404	<0.00402 0.00402	<0.00402 0.00402	<0.00403 0.00403	<0.00402 0.00402	<0.00402 0.00402
o-Xylene		<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201
Total Xylenes		<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201
Total BTEX		<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202	<0.00201 0.00201	<0.00201 0.00201
Chloride by EPA 300	Extracted:	Feb-10-20 10:30	Feb-10-20 10:30	Feb-10-20 10:30	Feb-10-20 10:30	Feb-10-20 10:30	Feb-10-20 10:30
	Analyzed:	Feb-10-20 13:29	Feb-10-20 13:35	Feb-10-20 13:40	Feb-10-20 13:46	Feb-10-20 14:03	Feb-10-20 14:10
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<10.0 10.0	<10.1 10.1	<10.0 10.0	<10.0 10.0	<10.0 10.0	22.4 10.1
TPH by SW8015 Mod	Extracted:	Feb-10-20 10:40	Feb-10-20 10:40	Feb-10-20 10:40	Feb-10-20 10:40	Feb-10-20 10:40	Feb-10-20 10:40
	Analyzed:	Feb-10-20 14:45	Feb-10-20 15:06	Feb-10-20 15:06	Feb-10-20 15:26	Feb-10-20 15:46	Feb-10-20 15:46
	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	<50.2 50.2	<50.2 50.2	<50.2 50.2	<50.1 50.1	<50.2 50.2
Diesel Range Organics (DRO)		<50.0 50.0	<50.2 50.2	<50.2 50.2	<50.2 50.2	<50.1 50.1	<50.2 50.2
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.2 50.2	<50.2 50.2	<50.2 50.2	<50.1 50.1	<50.2 50.2
Total GRO-DRO		<50.0 50.0	<50.2 50.2	<50.2 50.2	<50.2 50.2	<50.1 50.1	<50.2 50.2
Total TPH		<50.0 50.0	<50.2 50.2	<50.2 50.2	<50.2 50.2	<50.1 50.1	<50.2 50.2

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

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

Version: 1.9%

Jessica Kramer
Project Assistant



Certificate of Analytical Results 651808

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW17**
Lab Sample Id: 651808-001

Matrix: Soil
Date Collected: 02.07.20 10.35

Date Received: 02.10.20 08.10
Sample Depth: 0 - 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116090

Date Prep: 02.10.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	02.10.20 13.29	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116082

Date Prep: 02.10.20 10.40

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.10.20 14.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.10.20 14.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.10.20 14.45	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.10.20 14.45	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.10.20 14.45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	02.10.20 14.45	
o-Terphenyl	84-15-1	112	%	70-135	02.10.20 14.45	



Certificate of Analytical Results 651808

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW17**
Lab Sample Id: 651808-001

Matrix: Soil
Date Collected: 02.07.20 10.35

Date Received: 02.10.20 08.10
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.10.20 10.00

Basis: Wet Weight

Seq Number: 3116093

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.10.20 15.03	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.10.20 15.03	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.10.20 15.03	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	02.10.20 15.03	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.10.20 15.03	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.10.20 15.03	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.10.20 15.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	02.10.20 15.03		
1,4-Difluorobenzene	540-36-3	94	%	70-130	02.10.20 15.03		



Certificate of Analytical Results 651808

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW18** Matrix: Soil Date Received: 02.10.20 08.10
 Lab Sample Id: 651808-002 Date Collected: 02.07.20 10.40 Sample Depth: 0 - 6 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 02.10.20 10.30 Basis: Wet Weight
 Seq Number: 3116090

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	02.10.20 13.35	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 02.10.20 10.40 Basis: Wet Weight
 Seq Number: 3116082

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.10.20 15.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	02.10.20 15.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.10.20 15.06	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	02.10.20 15.06	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	02.10.20 15.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	02.10.20 15.06	
o-Terphenyl	84-15-1	109	%	70-135	02.10.20 15.06	



Certificate of Analytical Results 651808

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW18**
Lab Sample Id: 651808-002

Matrix: Soil
Date Collected: 02.07.20 10.40

Date Received: 02.10.20 08.10
Sample Depth: 0 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.10.20 10.00

Basis: Wet Weight

Seq Number: 3116093

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.10.20 15.24	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.10.20 15.24	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.10.20 15.24	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.10.20 15.24	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.10.20 15.24	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.10.20 15.24	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.10.20 15.24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.10.20 15.24		
4-Bromofluorobenzene	460-00-4	99	%	70-130	02.10.20 15.24		



Certificate of Analytical Results 651808

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW19**
Lab Sample Id: 651808-003

Matrix: Soil
Date Collected: 02.07.20 11.20

Date Received: 02.10.20 08.10
Sample Depth: 0 - 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116090

Date Prep: 02.10.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	02.10.20 13.40	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116082

Date Prep: 02.10.20 10.40

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.10.20 15.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	02.10.20 15.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.10.20 15.06	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	02.10.20 15.06	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	02.10.20 15.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	02.10.20 15.06	
o-Terphenyl	84-15-1	113	%	70-135	02.10.20 15.06	



Certificate of Analytical Results 651808

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW19**
Lab Sample Id: 651808-003

Matrix: Soil
Date Collected: 02.07.20 11.20

Date Received: 02.10.20 08.10
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.10.20 10.00

Basis: Wet Weight

Seq Number: 3116093

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.10.20 15.44	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.10.20 15.44	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.10.20 15.44	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.10.20 15.44	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.10.20 15.44	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.10.20 15.44	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.10.20 15.44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	93	%	70-130	02.10.20 15.44		
1,4-Difluorobenzene	540-36-3	102	%	70-130	02.10.20 15.44		



Certificate of Analytical Results 651808

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW20**
Lab Sample Id: 651808-004

Matrix: Soil
Date Collected: 02.07.20 12.20

Date Received: 02.10.20 08.10
Sample Depth: 0 - 3 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116090

Date Prep: 02.10.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	02.10.20 13.46	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116082

Date Prep: 02.10.20 10.40

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.10.20 15.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	02.10.20 15.26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.10.20 15.26	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	02.10.20 15.26	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	02.10.20 15.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	02.10.20 15.26	
o-Terphenyl	84-15-1	114	%	70-135	02.10.20 15.26	



Certificate of Analytical Results 651808

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW20**
 Lab Sample Id: 651808-004

Matrix: Soil
 Date Collected: 02.07.20 12.20

Date Received: 02.10.20 08.10
 Sample Depth: 0 - 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.10.20 10.00

Basis: Wet Weight

Seq Number: 3116093

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.10.20 17.06	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.10.20 17.06	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.10.20 17.06	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.10.20 17.06	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.10.20 17.06	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.10.20 17.06	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.10.20 17.06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	93	%	70-130	02.10.20 17.06		
4-Bromofluorobenzene	460-00-4	95	%	70-130	02.10.20 17.06		



Certificate of Analytical Results 651808

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW16** Matrix: Soil Date Received: 02.10.20 08.10
 Lab Sample Id: 651808-005 Date Collected: 02.07.20 13.30 Sample Depth: 0 - 5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 02.10.20 10.30 Basis: Wet Weight
 Seq Number: 3116090

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	02.10.20 14.03	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 02.10.20 10.40 Basis: Wet Weight
 Seq Number: 3116082

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.10.20 15.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	02.10.20 15.46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	02.10.20 15.46	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	02.10.20 15.46	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	02.10.20 15.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	02.10.20 15.46	
o-Terphenyl	84-15-1	104	%	70-135	02.10.20 15.46	



Certificate of Analytical Results 651808

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW16**
Lab Sample Id: 651808-005

Matrix: Soil
Date Collected: 02.07.20 13.30

Date Received: 02.10.20 08.10
Sample Depth: 0 - 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.10.20 10.00

Basis: Wet Weight

Seq Number: 3116093

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.10.20 17.26	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.10.20 17.26	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.10.20 17.26	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.10.20 17.26	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.10.20 17.26	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.10.20 17.26	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.10.20 17.26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	96	%	70-130	02.10.20 17.26		
4-Bromofluorobenzene	460-00-4	94	%	70-130	02.10.20 17.26		



Certificate of Analytical Results 651808

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: FS33
Lab Sample Id: 651808-006

Matrix: Soil
Date Collected: 02.07.20 13.45

Date Received: 02.10.20 08.10
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116090

Date Prep: 02.10.20 10.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	22.4	10.1	mg/kg	02.10.20 14.10		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116082

Date Prep: 02.10.20 10.40

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.10.20 15.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	02.10.20 15.46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.10.20 15.46	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	02.10.20 15.46	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	02.10.20 15.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	122	%	70-135	02.10.20 15.46	
o-Terphenyl	84-15-1	115	%	70-135	02.10.20 15.46	



Certificate of Analytical Results 651808

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **FS33**
Lab Sample Id: 651808-006

Matrix: Soil
Date Collected: 02.07.20 13.45

Date Received: 02.10.20 08.10
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.10.20 10.00

Basis: Wet Weight

Seq Number: 3116093

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.10.20 17.46	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.10.20 17.46	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.10.20 17.46	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.10.20 17.46	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.10.20 17.46	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.10.20 17.46	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.10.20 17.46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.10.20 17.46		
4-Bromofluorobenzene	460-00-4	92	%	70-130	02.10.20 17.46		



Flagging Criteria

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

****** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

Big Sinks 2-24-30

Analytical Method: Chloride by EPA 300

Seq Number: 3116090

MB Sample Id: 7696315-1-BLK

Matrix: Solid

LCS Sample Id: 7696315-1-BKS

Prep Method: E300P

Date Prep: 02.10.20

LCSD Sample Id: 7696315-1-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	256	102	256	102	90-110	0	20	mg/kg	02.10.20 12:02	

Analytical Method: Chloride by EPA 300

Seq Number: 3116090

Parent Sample Id: 651804-001

Matrix: Soil

MS Sample Id: 651804-001 S

Prep Method: E300P

Date Prep: 02.10.20

MSD Sample Id: 651804-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2410	201	2620	104	2610	100	90-110	0	20	mg/kg	02.10.20 12:36	

Analytical Method: Chloride by EPA 300

Seq Number: 3116090

Parent Sample Id: 651808-004

Matrix: Soil

MS Sample Id: 651808-004 S

Prep Method: E300P

Date Prep: 02.10.20

MSD Sample Id: 651808-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	7.39	201	219	105	218	105	90-110	0	20	mg/kg	02.10.20 13:51	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116082

MB Sample Id: 7696305-1-BLK

Matrix: Solid

LCS Sample Id: 7696305-1-BKS

Prep Method: SW8015P

Date Prep: 02.10.20

LCSD Sample Id: 7696305-1-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	957	96	1180	118	70-135	21	35	mg/kg	02.10.20 13:04	
Diesel Range Organics (DRO)	<50.0	1000	964	96	1100	110	70-135	13	35	mg/kg	02.10.20 13:04	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		116		130		70-135	%	02.10.20 13:04
o-Terphenyl	113		97		113		70-135	%	02.10.20 13:04

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116082

Matrix: Solid

MB Sample Id: 7696305-1-BLK

Prep Method: SW8015P

Date Prep: 02.10.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.10.20 12:44	

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

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

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

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



LT Environmental, Inc.

Big Sinks 2-24-30

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116082

Parent Sample Id: 651804-001

Matrix: Soil

MS Sample Id: 651804-001 S

Prep Method: SW8015P

Date Prep: 02.10.20

MSD Sample Id: 651804-001 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	883	88	1030	103	70-135	15	35	mg/kg	02.10.20 13:24	
Diesel Range Organics (DRO)	<50.1	1000	984	98	1110	111	70-135	12	35	mg/kg	02.10.20 13:24	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	130		133		70-135	%	02.10.20 13:24
o-Terphenyl	119		118		70-135	%	02.10.20 13:24

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116093

MB Sample Id: 7696320-1-BLK

Matrix: Solid

LCS Sample Id: 7696320-1-BKS

Prep Method: SW5030B

Date Prep: 02.10.20

LCSD Sample Id: 7696320-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.110	110	0.112	112	70-130	2	35	mg/kg	02.10.20 10:59	
Toluene	<0.00200	0.100	0.106	106	0.108	108	70-130	2	35	mg/kg	02.10.20 10:59	
Ethylbenzene	<0.00200	0.100	0.103	103	0.105	105	71-129	2	35	mg/kg	02.10.20 10:59	
m,p-Xylenes	<0.00400	0.200	0.211	106	0.215	108	70-135	2	35	mg/kg	02.10.20 10:59	
o-Xylene	<0.00200	0.100	0.105	105	0.107	107	71-133	2	35	mg/kg	02.10.20 10:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		105		105		70-130	%	02.10.20 10:59
4-Bromofluorobenzene	96		93		95		70-130	%	02.10.20 10:59

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116093

Parent Sample Id: 651804-001

Matrix: Soil

MS Sample Id: 651804-001 S

Prep Method: SW5030B

Date Prep: 02.10.20

MSD Sample Id: 651804-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.119	118	0.108	107	70-130	10	35	mg/kg	02.10.20 11:39	
Toluene	<0.00202	0.101	0.112	111	0.103	102	70-130	8	35	mg/kg	02.10.20 11:39	
Ethylbenzene	<0.00202	0.101	0.104	103	0.0973	96	71-129	7	35	mg/kg	02.10.20 11:39	
m,p-Xylenes	<0.00403	0.202	0.213	105	0.198	98	70-135	7	35	mg/kg	02.10.20 11:39	
o-Xylene	<0.00202	0.101	0.106	105	0.101	100	71-133	5	35	mg/kg	02.10.20 11:39	

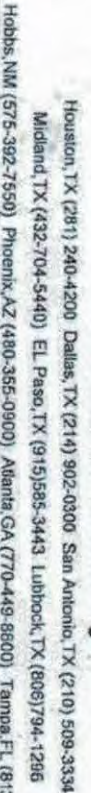
Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		105		70-130	%	02.10.20 11:39
4-Bromofluorobenzene	97		94		70-130	%	02.10.20 11:39

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



Work Order No: 1051808

[illegible]

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 Ti Sn U V Zn
TC1P / SPLP 6010:	8RCRA	Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	1631 / 245.1 / 7470 / 7471 : Hq

Date/Time

2/10/20 08:10

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02.10.2020 08.10.00 AM

Work Order #: 651808

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)?	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: 02.10.2020

Checklist reviewed by:



Jessica Kramer

Date: 02.10.2020

Analytical Report 652067

**for
LT Environmental, Inc.**

Project Manager: Dan Moir

Big Sinks 2-24-30

012919074

26-FEB-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)



26-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **652067**

Big Sinks 2-24-30

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) 652067. 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. 652067 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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

**Sample Cross Reference 652067****LT Environmental, Inc., Arvada, CO**

Big Sinks 2-24-30

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW21	S	02-11-20 12:45	0 - 4 ft	652067-001
FS34	S	02-11-20 13:30	4 ft	652067-002
FS35	S	02-11-20 13:35	4 ft	652067-003
FS36	S	02-11-20 14:15	4 ft	652067-004
FS37	S	02-11-20 14:20	4 ft	652067-005



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Big Sinks 2-24-30

Project ID: 012919074
Work Order Number(s): 652067

Report Date: 26-FEB-20
Date Received: 02/11/2020

Sample receipt non conformances and comments:

V1.001 - Revision (client email) Corrected sample names as follows below. JK 02/26/20
SW23 --> SW21

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3116231 BTEX by EPA 8021B

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



Certificate of Analysis Summary 652067

LT Environmental, Inc., Arvada, CO

Project Name: Big Sinks 2-24-30

Project Id: 012919074

Contact: Dan Moir

Project Location:

Date Received in Lab: Tue Feb-11-20 04:48 pm

Report Date: 26-FEB-20

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	652067-001	652067-002	652067-003	652067-004	652067-005	
	<i>Field Id:</i>	SW21	FS34	FS35	FS36	FS37	
	<i>Depth:</i>	0-4 ft	4- ft	4- ft	4- ft	4- ft	
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	Feb-11-20 12:45	Feb-11-20 13:30	Feb-11-20 13:35	Feb-11-20 14:15	Feb-11-20 14:20	
BTEX by EPA 8021B	<i>Extracted:</i>	Feb-11-20 17:30	Feb-11-20 17:30	Feb-11-20 17:30	Feb-11-20 17:30	Feb-11-20 17:30	
	<i>Analyzed:</i>	Feb-11-20 23:32	Feb-11-20 23:52	Feb-12-20 00:12	Feb-12-20 00:33	Feb-12-20 00:53	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00200 0.00200	
Toluene		<0.00202 0.00202	<0.00200 0.00200	<0.00201 0.00201	0.101 0.00202	<0.00200 0.00200	
Ethylbenzene		<0.00202 0.00202	<0.00200 0.00200	0.00201 0.00201	0.200 0.00202	<0.00200 0.00200	
m,p-Xylenes		<0.00403 0.00403	<0.00400 0.00400	0.0103 0.00402	0.776 0.00403	<0.00401 0.00401	
o-Xylene		<0.00202 0.00202	<0.00200 0.00200	0.00802 0.00201	0.366 0.00202	<0.00200 0.00200	
Total Xylenes		<0.00202 0.00202	<0.00200 0.00200	0.0183 0.00201	1.14 0.00202	<0.00200 0.00200	
Total BTEX		<0.00202 0.00202	<0.00200 0.00200	0.0203 0.00201	1.44 0.00202	<0.00200 0.00200	
Chloride by EPA 300	<i>Extracted:</i>	Feb-11-20 17:30	Feb-11-20 17:30	Feb-11-20 17:30	Feb-11-20 17:30	Feb-11-20 17:30	
	<i>Analyzed:</i>	Feb-11-20 18:28	Feb-11-20 18:45	Feb-11-20 18:50	Feb-11-20 18:56	Feb-11-20 19:01	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		<9.98 9.98	12.8 10.0	25.2 10.1	15.5 10.0	23.2 10.1	
TPH by SW8015 Mod	<i>Extracted:</i>	Feb-11-20 17:00	Feb-11-20 17:00	Feb-11-20 17:00	Feb-11-20 17:00	Feb-11-20 17:00	
	<i>Analyzed:</i>	Feb-11-20 21:40	Feb-11-20 21:59	Feb-11-20 22:19	Feb-11-20 22:19	Feb-11-20 22:38	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<50.3 50.3	<50.3 50.3	<50.1 50.1	96.0 50.2	<50.3 50.3	
Diesel Range Organics (DRO)		<50.3 50.3	<50.3 50.3	100 50.1	621 50.2	<50.3 50.3	
Motor Oil Range Hydrocarbons (MRO)		<50.3 50.3	<50.3 50.3	<50.1 50.1	<50.2 50.2	<50.3 50.3	
Total GRO-DRO		<50.3 50.3	<50.3 50.3	100 50.1	717 50.2	<50.3 50.3	
Total TPH		<50.3 50.3	<50.3 50.3	100 50.1	717 50.2	<50.3 50.3	

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

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

Jessica Kramer
Project Assistant



Certificate of Analytical Results 652067

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW21**
Lab Sample Id: 652067-001

Matrix: Soil
Date Collected: 02.11.20 12.45

Date Received: 02.11.20 16.48
Sample Depth: 0 - 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116238

Date Prep: 02.11.20 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	02.11.20 18.28	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116256

Date Prep: 02.11.20 17.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	02.11.20 21.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	02.11.20 21.40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	02.11.20 21.40	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	02.11.20 21.40	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	02.11.20 21.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	02.11.20 21.40	
o-Terphenyl	84-15-1	95	%	70-135	02.11.20 21.40	



Certificate of Analytical Results 652067

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW21**
Lab Sample Id: 652067-001

Matrix: Soil
Date Collected: 02.11.20 12.45

Date Received: 02.11.20 16.48
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.11.20 17.30

Basis: Wet Weight

Seq Number: 3116231

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.11.20 23.32	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.11.20 23.32	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.11.20 23.32	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	02.11.20 23.32	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.11.20 23.32	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.11.20 23.32	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.11.20 23.32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	02.11.20 23.32		
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.11.20 23.32		



Certificate of Analytical Results 652067

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **FS34**
Lab Sample Id: 652067-002

Matrix: Soil
Date Collected: 02.11.20 13.30

Date Received: 02.11.20 16.48
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116238

Date Prep: 02.11.20 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.8	10.0	mg/kg	02.11.20 18.45		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116256

Date Prep: 02.11.20 17.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	02.11.20 21.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	02.11.20 21.59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	02.11.20 21.59	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	02.11.20 21.59	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	02.11.20 21.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	02.11.20 21.59	
o-Terphenyl	84-15-1	95	%	70-135	02.11.20 21.59	



Certificate of Analytical Results 652067

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **FS34**
Lab Sample Id: 652067-002

Matrix: Soil
Date Collected: 02.11.20 13.30

Date Received: 02.11.20 16.48
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.11.20 17.30

Basis: Wet Weight

Seq Number: 3116231

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.11.20 23.52	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.11.20 23.52	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.11.20 23.52	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.11.20 23.52	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.11.20 23.52	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.11.20 23.52	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.11.20 23.52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	02.11.20 23.52		
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.11.20 23.52		



Certificate of Analytical Results 652067

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: FS35 Matrix: Soil Date Received: 02.11.20 16.48
 Lab Sample Id: 652067-003 Date Collected: 02.11.20 13.35 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 02.11.20 17.30 Basis: Wet Weight
 Seq Number: 3116238

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	25.2	10.1	mg/kg	02.11.20 18.50		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 02.11.20 17.00 Basis: Wet Weight
 Seq Number: 3116256

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.11.20 22.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	100	50.1	mg/kg	02.11.20 22.19		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	02.11.20 22.19	U	1
Total GRO-DRO	PHC628	100	50.1	mg/kg	02.11.20 22.19		1
Total TPH	PHC635	100	50.1	mg/kg	02.11.20 22.19		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	02.11.20 22.19	
o-Terphenyl	84-15-1	98	%	70-135	02.11.20 22.19	



Certificate of Analytical Results 652067

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **FS35**
Lab Sample Id: 652067-003

Matrix: Soil
Date Collected: 02.11.20 13.35

Date Received: 02.11.20 16.48
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.11.20 17.30

Basis: Wet Weight

Seq Number: 3116231

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.12.20 00.12	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.12.20 00.12	U	1
Ethylbenzene	100-41-4	0.00201	0.00201	mg/kg	02.12.20 00.12		1
m,p-Xylenes	179601-23-1	0.0103	0.00402	mg/kg	02.12.20 00.12		1
o-Xylene	95-47-6	0.00802	0.00201	mg/kg	02.12.20 00.12		1
Total Xylenes	1330-20-7	0.0183	0.00201	mg/kg	02.12.20 00.12		1
Total BTEX		0.0203	0.00201	mg/kg	02.12.20 00.12		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.12.20 00.12		
1,4-Difluorobenzene	540-36-3	100	%	70-130	02.12.20 00.12		



Certificate of Analytical Results 652067

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **FS36** Matrix: Soil Date Received: 02.11.20 16.48
 Lab Sample Id: 652067-004 Date Collected: 02.11.20 14.15 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 02.11.20 17.30 Basis: Wet Weight
 Seq Number: 3116238

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	15.5	10.0	mg/kg	02.11.20 18.56		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 02.11.20 17.00 Basis: Wet Weight
 Seq Number: 3116256

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	96.0	50.2	mg/kg	02.11.20 22.19		1
Diesel Range Organics (DRO)	C10C28DRO	621	50.2	mg/kg	02.11.20 22.19		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.11.20 22.19	U	1
Total GRO-DRO	PHC628	717	50.2	mg/kg	02.11.20 22.19		1
Total TPH	PHC635	717	50.2	mg/kg	02.11.20 22.19		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	02.11.20 22.19	
o-Terphenyl	84-15-1	96	%	70-135	02.11.20 22.19	



Certificate of Analytical Results 652067

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **FS36**
Lab Sample Id: 652067-004

Matrix: Soil
Date Collected: 02.11.20 14.15

Date Received: 02.11.20 16.48
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.11.20 17.30

Basis: Wet Weight

Seq Number: 3116231

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.12.20 00.33	U	1
Toluene	108-88-3	0.101	0.00202	mg/kg	02.12.20 00.33		1
Ethylbenzene	100-41-4	0.200	0.00202	mg/kg	02.12.20 00.33		1
m,p-Xylenes	179601-23-1	0.776	0.00403	mg/kg	02.12.20 00.33		1
o-Xylene	95-47-6	0.366	0.00202	mg/kg	02.12.20 00.33		1
Total Xylenes	1330-20-7	1.14	0.00202	mg/kg	02.12.20 00.33		1
Total BTEX		1.44	0.00202	mg/kg	02.12.20 00.33		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	125	%	70-130	02.12.20 00.33		
1,4-Difluorobenzene	540-36-3	97	%	70-130	02.12.20 00.33		



Certificate of Analytical Results 652067

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: FS37 Matrix: Soil Date Received: 02.11.20 16.48
 Lab Sample Id: 652067-005 Date Collected: 02.11.20 14.20 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 02.11.20 17.30 Basis: Wet Weight
 Seq Number: 3116238

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.2	10.1	mg/kg	02.11.20 19.01		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 02.11.20 17.00 Basis: Wet Weight
 Seq Number: 3116256

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	02.11.20 22.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	02.11.20 22.38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	02.11.20 22.38	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	02.11.20 22.38	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	02.11.20 22.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	02.11.20 22.38	
o-Terphenyl	84-15-1	97	%	70-135	02.11.20 22.38	



Certificate of Analytical Results 652067

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **FS37**
Lab Sample Id: 652067-005

Matrix: Soil
Date Collected: 02.11.20 14.20

Date Received: 02.11.20 16.48
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.11.20 17.30

Basis: Wet Weight

Seq Number: 3116231

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.12.20 00.53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.12.20 00.53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.12.20 00.53	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.12.20 00.53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.12.20 00.53	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.12.20 00.53	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.12.20 00.53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	122	%	70-130	02.12.20 00.53		
1,4-Difluorobenzene	540-36-3	103	%	70-130	02.12.20 00.53		



Flagging Criteria

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

****** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

Big Sinks 2-24-30

Analytical Method: Chloride by EPA 300

Seq Number: 3116238

MB Sample Id: 7696463-1-BLK

Matrix: Solid

LCS Sample Id: 7696463-1-BKS

Prep Method: E300P

Date Prep: 02.11.20

LCSD Sample Id: 7696463-1-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	350	364	104	364	104	90-110	0	20	mg/kg	02.11.20 18:17	

Analytical Method: Chloride by EPA 300

Seq Number: 3116238

Parent Sample Id: 652053-006

Matrix: Soil

MS Sample Id: 652053-006 S

Prep Method: E300P

Date Prep: 02.11.20

MSD Sample Id: 652053-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	107	200	323	108	322	108	90-110	0	20	mg/kg	02.11.20 19:52	

Analytical Method: Chloride by EPA 300

Seq Number: 3116238

Parent Sample Id: 652067-001

Matrix: Soil

MS Sample Id: 652067-001 S

Prep Method: E300P

Date Prep: 02.11.20

MSD Sample Id: 652067-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	9.04	200	213	102	213	102	90-110	0	20	mg/kg	02.11.20 18:34	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116256

MB Sample Id: 7696452-1-BLK

Matrix: Solid

LCS Sample Id: 7696452-1-BKS

Prep Method: SW8015P

Date Prep: 02.11.20

LCSD Sample Id: 7696452-1-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	950	95	791	79	70-135	18	35	mg/kg	02.11.20 19:42	
Diesel Range Organics (DRO)	<50.0	1000	817	82	718	72	70-135	13	35	mg/kg	02.11.20 19:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	89		117		100		70-135	%	02.11.20 19:42
o-Terphenyl	83		109		93		70-135	%	02.11.20 19:42

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116256

Matrix: Solid

MB Sample Id: 7696452-1-BLK

Prep Method: SW8015P

Date Prep: 02.11.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.11.20 19:22	

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

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

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

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



LT Environmental, Inc.

Big Sinks 2-24-30

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116256

Parent Sample Id: 652053-033

Matrix: Soil

MS Sample Id: 652053-033 S

Prep Method: SW8015P

Date Prep: 02.11.20

MSD Sample Id: 652053-033 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	905	91	922	92	70-135	2	35	mg/kg	02.11.20 20:01	
Diesel Range Organics (DRO)	<50.0	1000	826	83	829	83	70-135	0	35	mg/kg	02.11.20 20:01	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		124		70-135	%	02.11.20 20:01
o-Terphenyl	105		118		70-135	%	02.11.20 20:01

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116231

MB Sample Id: 7696467-1-BLK

Matrix: Solid

LCS Sample Id: 7696467-1-BKS

Prep Method: SW5030B

Date Prep: 02.11.20

LCSD Sample Id: 7696467-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.110	110	0.106	106	70-130	4	35	mg/kg	02.11.20 21:29	
Toluene	<0.00200	0.100	0.107	107	0.104	104	70-130	3	35	mg/kg	02.11.20 21:29	
Ethylbenzene	<0.00200	0.100	0.103	103	0.0997	100	71-129	3	35	mg/kg	02.11.20 21:29	
m,p-Xylenes	<0.00400	0.200	0.212	106	0.206	103	70-135	3	35	mg/kg	02.11.20 21:29	
o-Xylene	<0.00200	0.100	0.106	106	0.103	103	71-133	3	35	mg/kg	02.11.20 21:29	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		104		104		70-130	%	02.11.20 21:29
4-Bromofluorobenzene	96		94		93		70-130	%	02.11.20 21:29

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116231

Parent Sample Id: 652053-032

Matrix: Soil

MS Sample Id: 652053-032 S

Prep Method: SW5030B

Date Prep: 02.11.20

MSD Sample Id: 652053-032 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	0.116	116	0.111	110	70-130	4	35	mg/kg	02.11.20 22:10	
Toluene	<0.00200	0.100	0.109	109	0.104	103	70-130	5	35	mg/kg	02.11.20 22:10	
Ethylbenzene	<0.00200	0.100	0.105	105	0.0990	98	71-129	6	35	mg/kg	02.11.20 22:10	
m,p-Xylenes	<0.00401	0.200	0.215	108	0.201	100	70-135	7	35	mg/kg	02.11.20 22:10	
o-Xylene	<0.00200	0.100	0.108	108	0.101	100	71-133	7	35	mg/kg	02.11.20 22:10	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		104		70-130	%	02.11.20 22:10
4-Bromofluorobenzene	95		98		70-130	%	02.11.20 22:10

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

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

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

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



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
Midland TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 973-3922
Jobs, NM (505) 392-7550

Work Order No: 1078007

Page 1 of 1
www.yengo.comPage 1 of 1

LABORATORIES

Project Manager: Dan Moir

Company Name: LT Environmental, Inc., Permian office

Address: 3300 North A Street

City, State ZIP: Midland, TX 79705

Phone: (432) 236-3849

Hobbs, NM (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-444-0000)

Bill to: (if different) Kyle Littlell

Company Name: XTO Energy

Address: 533 W. Mermaid St

City, State ZIP: Enfield, NM 88320

Email: jhull@ltenv.com, dmoir@ltenv.com

ANALYSIS REQUEST

Work Order Comments

Program: UST/PST ☐ RP ☐ Brownfields ☐ RC ☐ Superfund ☐

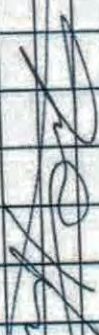
State of Project:

Reporting Level II ☐ Level III ☐ PST/UST ☐ RP ☐ Level IV ☐

Deliverables: EDD ☐ ADAPT ☐ Other: ☐

Work Order Notes

Project Name:	B.S. Smks 2-24-20			Turn Around
Project Number:	012919074			Routine ☐
P.O. Number:	2RP-5422			Rush: 24hr
Sampler's Name:	Jeremy Hill			Due Date: 2/14/20
SAMPLE RECEIPT		Temp Blank:	Yes ☒ No ☐	Wet Ice: ☒ No ☐
Temperature (°C):	0.8		Thermometer ID	
Received In tact:	Yes ☒ No ☐		TMM002	
Cooler Custody Seals:	Yes ☒ No ☐		Correction Factor: -0.2	
Sample Custody Seals:	Yes ☒ No ☐		Total Containers: 5	
Number of Containers				
H (EPA 8015)				
EX (EPA 0-8021)				
loride (EPA 300.0)				
TAT starts the day received by the lab, if received by 4:30pm				
Sample Comments				

Sample Identification	Matrix	Date Sampled	Sampled	Depth	Number	TPH	BT	Ch	Composits
SW-23 SW 24	S	2/11/20	1245	0-4'	1	X	X	X	Composits ↑
FS 34	S		1330	4'	1	X	X	X	
FS 35	S		1335		1	X	X	X	
FS 36	S		1415		1	X	X	X	
FS 37	S		1420		1	X	X	X	
									

Total 200.7 / 6010	200.8 / 6020:	8RCRA 13PPM Texas 11 At Co 7.5	10511 250.11 114.0
Circle Method(s) and Metal(s) to be analyzed		TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U	
Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xanco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xanco 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 Xanco. A minimum charge of \$75.00 will be applied to each project and a charge of \$5 for each sample submitted to Xanco, but not analyzed. These terms will be enforced unless previously negotiated.			
Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time

	Relinquished by: (Signature)	Received by: (Signature)	Date		
1			8/11/20	16-48	
2					
3					
4					
5					

Revised Date 05/14/18 Rev. 20

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02.11.2020 04.48.00 PM

Work Order #: 652067

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Elizabeth McClellan

Date: 02.11.2020

Checklist reviewed by:



Jessica Kramer

Date: 02.12.2020

Analytical Report 652258

for
LT Environmental, Inc.

Project Manager: Dan Moir

Big Sinks 2-24-30

012919074

27-FEB-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)



27-FEB-20

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **652258**

Big Sinks 2-24-30

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) 652258. 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. 652258 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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

**Sample Cross Reference 652258****LT Environmental, Inc., Arvada, CO**

Big Sinks 2-24-30

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01	S	02-12-20 10:15	0.5 ft	652258-001
BH01B	S	02-12-20 10:50	7 ft	652258-002
BH01A	S	02-12-20 10:35	4 ft	652258-003
BH02	S	02-12-20 11:10	0.5 ft	652258-004
BH02A	S	02-12-20 11:15	1 ft	652258-005
BH02B	S	02-12-20 11:30	4 ft	652258-006
BH03	S	02-12-20 11:55	0.5 ft	652258-007
BH03A	S	02-12-20 12:05	2 ft	652258-008
BH03B	S	02-12-20 12:15	4 ft	652258-009



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Big Sinks 2-24-30

Project ID: 012919074
Work Order Number(s): 652258

Report Date: 27-FEB-20
Date Received: 02/13/2020

Sample receipt non conformances and comments:

V1.001 - Revision (client email) Corrected sample names as follows below. JK 02/26/20

BH01G --> BH01A

BH01D --> BH01B

BH02D --> BH02B

BH03B --> BH03A

BH03D --> BH03B

V1.002 Revision (client email) Corrected sample names as follows below. JK 02/27/20

BH01A --> BH01B

BH01B --> BH01A

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3116480 BTEX by EPA 8021B

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

Batch: LBA-3116481 BTEX by EPA 8021B

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



Certificate of Analysis Summary 652258

LT Environmental, Inc., Arvada, CO

Project Name: Big Sinks 2-24-30

Project Id: 012919074

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu Feb-13-20 08:50 am

Report Date: 27-FEB-20

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	652258-001	652258-002	652258-003	652258-004	652258-005	652258-006
	<i>Field Id:</i>	BH01	BH01B	BH01A	BH02	BH02A	BH02B
	<i>Depth:</i>	0.5- ft	7- ft	4- ft	0.5- ft	1- ft	4- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Feb-12-20 10:15	Feb-12-20 10:50	Feb-12-20 10:35	Feb-12-20 11:10	Feb-12-20 11:15	Feb-12-20 11:30
BTEX by EPA 8021B	<i>Extracted:</i>	Feb-13-20 10:00	Feb-13-20 10:00	Feb-13-20 10:00	Feb-13-20 18:00	Feb-13-20 18:00	Feb-13-20 18:00
	<i>Analyzed:</i>	Feb-13-20 20:59	Feb-13-20 21:20	Feb-13-20 21:40	Feb-14-20 00:44	Feb-14-20 01:04	Feb-14-20 01:24
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Toluene		<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
m,p-Xylenes		<0.00401 0.00401	<0.00402 0.00402	<0.00404 0.00404	<0.00398 0.00398	<0.00400 0.00400	<0.00397 0.00397
o-Xylene		<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Total Xylenes		<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Total BTEX		<0.00200 0.00200	<0.00201 0.00201	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Chloride by EPA 300	<i>Extracted:</i>	Feb-13-20 11:41	Feb-13-20 11:41	Feb-13-20 11:41	Feb-13-20 13:44	Feb-13-20 13:44	Feb-13-20 13:44
	<i>Analyzed:</i>	Feb-13-20 14:59	Feb-13-20 15:05	Feb-13-20 15:11	Feb-13-20 15:46	Feb-13-20 16:04	Feb-13-20 16:10
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<10.1 10.1	15.5 9.98	20.4 10.0	<10.0 10.0	<9.98 9.98	70.9 9.92
TPH by SW8015 Mod	<i>Extracted:</i>	Feb-13-20 10:19	Feb-13-20 10:19	Feb-13-20 10:19	Feb-13-20 13:30	Feb-13-20 13:30	Feb-13-20 13:30
	<i>Analyzed:</i>	Feb-13-20 13:47	Feb-13-20 13:47	Feb-13-20 14:07	Feb-13-20 17:36	Feb-13-20 17:56	Feb-13-20 18:16
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	<50.0 50.0	<50.2 50.2	<50.2 50.2	<50.2 50.2	<50.0 50.0
Diesel Range Organics (DRO)		<50.2 50.2	<50.0 50.0	<50.2 50.2	<50.2 50.2	<50.2 50.2	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<50.0 50.0	<50.2 50.2	<50.2 50.2	<50.2 50.2	<50.0 50.0
Total GRO-DRO		<50.2 50.2	<50.0 50.0	<50.2 50.2	<50.2 50.2	<50.2 50.2	<50.0 50.0
Total TPH		<50.2 50.2	<50.0 50.0	<50.2 50.2	<50.2 50.2	<50.2 50.2	<50.0 50.0

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

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

Version: 1.9%

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 652258

LT Environmental, Inc., Arvada, CO

Project Name: Big Sinks 2-24-30

Project Id: 012919074

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu Feb-13-20 08:50 am

Report Date: 27-FEB-20

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	652258-007	652258-008	652258-009			
	<i>Field Id:</i>	BH03	BH03A	BH03B			
	<i>Depth:</i>	0.5- ft	2- ft	4- ft			
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Feb-12-20 11:55	Feb-12-20 12:05	Feb-12-20 12:15			
BTEX by EPA 8021B	<i>Extracted:</i>	Feb-13-20 18:00	Feb-13-20 18:00	Feb-13-20 18:00			
	<i>Analyzed:</i>	Feb-14-20 01:45	Feb-14-20 02:05	Feb-14-20 02:26			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200			
Toluene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200			
Ethylbenzene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200			
m,p-Xylenes		<0.00398 0.00398	<0.00399 0.00399	<0.00399 0.00399			
o-Xylene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200			
Total Xylenes		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200			
Total BTEX		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200			
Chloride by EPA 300	<i>Extracted:</i>	Feb-13-20 13:44	Feb-13-20 13:44	Feb-13-20 13:44			
	<i>Analyzed:</i>	Feb-13-20 16:16	Feb-13-20 16:22	Feb-13-20 16:28			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		<9.98 9.98	<9.92 9.92	<9.94 9.94			
TPH by SW8015 Mod	<i>Extracted:</i>	Feb-13-20 13:30	Feb-13-20 13:30	Feb-13-20 13:30			
	<i>Analyzed:</i>	Feb-13-20 18:16	Feb-13-20 18:36	Feb-13-20 18:36			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	<50.0 50.0	<49.9 49.9			
Diesel Range Organics (DRO)		<50.2 50.2	<50.0 50.0	<49.9 49.9			
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<50.0 50.0	<49.9 49.9			
Total GRO-DRO		<50.2 50.2	<50.0 50.0	<49.9 49.9			
Total TPH		<50.2 50.2	<50.0 50.0	<49.9 49.9			

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

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

Version: 1.0%

Jessica Kramer
Project Assistant



Certificate of Analytical Results 652258

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **BH01**
Lab Sample Id: 652258-001

Matrix: Soil
Date Collected: 02.12.20 10.15

Date Received: 02.13.20 08.50
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116451

Date Prep: 02.13.20 11.41

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.1	10.1	mg/kg	02.13.20 14.59	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116469

Date Prep: 02.13.20 10.19

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.13.20 13.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	02.13.20 13.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.13.20 13.47	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	02.13.20 13.47	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	02.13.20 13.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	02.13.20 13.47	
o-Terphenyl	84-15-1	109	%	70-135	02.13.20 13.47	



Certificate of Analytical Results 652258

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **BH01**
Lab Sample Id: 652258-001

Matrix: Soil
Date Collected: 02.12.20 10.15

Date Received: 02.13.20 08.50
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.13.20 10.00

Basis: Wet Weight

Seq Number: 3116480

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.13.20 20.59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.13.20 20.59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.13.20 20.59	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.13.20 20.59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.13.20 20.59	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.13.20 20.59	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.13.20 20.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.13.20 20.59		
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.13.20 20.59		



Certificate of Analytical Results 652258

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **BH01B**
Lab Sample Id: 652258-002

Matrix: Soil
Date Collected: 02.12.20 10.50

Date Received: 02.13.20 08.50
Sample Depth: 7 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116451

Date Prep: 02.13.20 11.41

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	15.5	9.98	mg/kg	02.13.20 15.05		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116469

Date Prep: 02.13.20 10.19

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.13.20 13.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.13.20 13.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.13.20 13.47	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.13.20 13.47	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.13.20 13.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	02.13.20 13.47	
o-Terphenyl	84-15-1	97	%	70-135	02.13.20 13.47	



Certificate of Analytical Results 652258

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **BH01B**
Lab Sample Id: 652258-002

Matrix: Soil
Date Collected: 02.12.20 10.50

Date Received: 02.13.20 08.50
Sample Depth: 7 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.13.20 10.00

Basis: Wet Weight

Seq Number: 3116480

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.13.20 21.20	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.13.20 21.20	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.13.20 21.20	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.13.20 21.20	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.13.20 21.20	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.13.20 21.20	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.13.20 21.20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.13.20 21.20		
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.13.20 21.20		



Certificate of Analytical Results 652258

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **BH01A**
Lab Sample Id: 652258-003

Matrix: Soil
Date Collected: 02.12.20 10.35

Date Received: 02.13.20 08.50
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116451

Date Prep: 02.13.20 11.41

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	20.4	10.0	mg/kg	02.13.20 15.11		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116469

Date Prep: 02.13.20 10.19

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.13.20 14.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	02.13.20 14.07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.13.20 14.07	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	02.13.20 14.07	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	02.13.20 14.07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	02.13.20 14.07	
o-Terphenyl	84-15-1	101	%	70-135	02.13.20 14.07	



Certificate of Analytical Results 652258

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **BH01A**
Lab Sample Id: 652258-003

Matrix: Soil
Date Collected: 02.12.20 10.35

Date Received: 02.13.20 08.50
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.13.20 10.00

Basis: Wet Weight

Seq Number: 3116480

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.13.20 21.40	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.13.20 21.40	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.13.20 21.40	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	02.13.20 21.40	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	02.13.20 21.40	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	02.13.20 21.40	U	1
Total BTEX		<0.00202	0.00202	mg/kg	02.13.20 21.40	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.13.20 21.40		
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.13.20 21.40		



Certificate of Analytical Results 652258

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **BH02**
Lab Sample Id: 652258-004

Matrix: Soil
Date Collected: 02.12.20 11.10

Date Received: 02.13.20 08.50
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116482

Date Prep: 02.13.20 13.44

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	02.13.20 15.46	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116490

Date Prep: 02.13.20 13.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.13.20 17.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	02.13.20 17.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.13.20 17.36	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	02.13.20 17.36	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	02.13.20 17.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	02.13.20 17.36	
o-Terphenyl	84-15-1	101	%	70-135	02.13.20 17.36	



Certificate of Analytical Results 652258

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **BH02**
Lab Sample Id: 652258-004

Matrix: Soil
Date Collected: 02.12.20 11.10

Date Received: 02.13.20 08.50
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.13.20 18.00

Basis: Wet Weight

Seq Number: 3116481

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.14.20 00.44	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.14.20 00.44	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.14.20 00.44	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.14.20 00.44	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.14.20 00.44	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.14.20 00.44	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.14.20 00.44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.14.20 00.44		
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.14.20 00.44		



Certificate of Analytical Results 652258

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **BH02A**
Lab Sample Id: 652258-005

Matrix: Soil
Date Collected: 02.12.20 11.15

Date Received: 02.13.20 08.50
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116482

Date Prep: 02.13.20 13.44

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	02.13.20 16.04	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116490

Date Prep: 02.13.20 13.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.13.20 17.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	02.13.20 17.56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.13.20 17.56	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	02.13.20 17.56	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	02.13.20 17.56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	02.13.20 17.56	
o-Terphenyl	84-15-1	95	%	70-135	02.13.20 17.56	



Certificate of Analytical Results 652258

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **BH02A**
Lab Sample Id: 652258-005

Matrix: Soil
Date Collected: 02.12.20 11.15

Date Received: 02.13.20 08.50
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.13.20 18.00

Basis: Wet Weight

Seq Number: 3116481

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.14.20 01.04	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.14.20 01.04	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.14.20 01.04	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.14.20 01.04	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.14.20 01.04	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.14.20 01.04	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.14.20 01.04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.14.20 01.04		
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.14.20 01.04		



Certificate of Analytical Results 652258

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **BH02B**
Lab Sample Id: 652258-006

Matrix: Soil
Date Collected: 02.12.20 11.30

Date Received: 02.13.20 08.50
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116482

Date Prep: 02.13.20 13.44

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	70.9	9.92	mg/kg	02.13.20 16.10		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116490

Date Prep: 02.13.20 13.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.13.20 18.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.13.20 18.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.13.20 18.16	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.13.20 18.16	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.13.20 18.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	02.13.20 18.16	
o-Terphenyl	84-15-1	106	%	70-135	02.13.20 18.16	



Certificate of Analytical Results 652258

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **BH02B**
Lab Sample Id: 652258-006

Matrix: Soil
Date Collected: 02.12.20 11.30

Date Received: 02.13.20 08.50
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.13.20 18.00

Basis: Wet Weight

Seq Number: 3116481

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	02.14.20 01.24	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	02.14.20 01.24	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	02.14.20 01.24	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	02.14.20 01.24	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	02.14.20 01.24	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	02.14.20 01.24	U	1
Total BTEX		<0.00198	0.00198	mg/kg	02.14.20 01.24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.14.20 01.24		
4-Bromofluorobenzene	460-00-4	98	%	70-130	02.14.20 01.24		



Certificate of Analytical Results 652258

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **BH03**
Lab Sample Id: 652258-007

Matrix: Soil
Date Collected: 02.12.20 11.55

Date Received: 02.13.20 08.50
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116482

Date Prep: 02.13.20 13.44

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	02.13.20 16.16	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116490

Date Prep: 02.13.20 13.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.13.20 18.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	02.13.20 18.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.13.20 18.16	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	02.13.20 18.16	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	02.13.20 18.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	02.13.20 18.16	
o-Terphenyl	84-15-1	99	%	70-135	02.13.20 18.16	



Certificate of Analytical Results 652258

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **BH03**
Lab Sample Id: 652258-007

Matrix: Soil
Date Collected: 02.12.20 11.55

Date Received: 02.13.20 08.50
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.13.20 18.00

Basis: Wet Weight

Seq Number: 3116481

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.14.20 01.45	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.14.20 01.45	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.14.20 01.45	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	02.14.20 01.45	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	02.14.20 01.45	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	02.14.20 01.45	U	1
Total BTEX		<0.00199	0.00199	mg/kg	02.14.20 01.45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.14.20 01.45		
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.14.20 01.45		



Certificate of Analytical Results 652258

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **BH03A** Matrix: Soil Date Received: 02.13.20 08.50
 Lab Sample Id: 652258-008 Date Collected: 02.12.20 12.05 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 02.13.20 13.44 Basis: Wet Weight
 Seq Number: 3116482

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.92	9.92	mg/kg	02.13.20 16.22	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 02.13.20 13.30 Basis: Wet Weight
 Seq Number: 3116490

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.13.20 18.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.13.20 18.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.13.20 18.36	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.13.20 18.36	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.13.20 18.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	02.13.20 18.36	
o-Terphenyl	84-15-1	113	%	70-135	02.13.20 18.36	



Certificate of Analytical Results 652258

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **BH03A**
Lab Sample Id: 652258-008

Matrix: Soil
Date Collected: 02.12.20 12.05

Date Received: 02.13.20 08.50
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.13.20 18.00

Basis: Wet Weight

Seq Number: 3116481

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.14.20 02.05	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.14.20 02.05	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.14.20 02.05	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.14.20 02.05	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.14.20 02.05	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.14.20 02.05	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.14.20 02.05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.14.20 02.05		
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.14.20 02.05		



Certificate of Analytical Results 652258

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **BH03B**
Lab Sample Id: 652258-009

Matrix: Soil
Date Collected: 02.12.20 12.15

Date Received: 02.13.20 08.50
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116482

Date Prep: 02.13.20 13.44

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.94	9.94	mg/kg	02.13.20 16.28	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116490

Date Prep: 02.13.20 13.30

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.13.20 18.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	02.13.20 18.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.13.20 18.36	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	02.13.20 18.36	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	02.13.20 18.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	02.13.20 18.36	
o-Terphenyl	84-15-1	101	%	70-135	02.13.20 18.36	



Certificate of Analytical Results 652258

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **BH03B**
Lab Sample Id: 652258-009

Matrix: Soil
Date Collected: 02.12.20 12.15

Date Received: 02.13.20 08.50
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.13.20 18.00

Basis: Wet Weight

Seq Number: 3116481

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.14.20 02.26	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.14.20 02.26	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.14.20 02.26	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.14.20 02.26	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.14.20 02.26	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.14.20 02.26	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.14.20 02.26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.14.20 02.26		
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.14.20 02.26		



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



LT Environmental, Inc.

Big Sinks 2-24-30

Analytical Method: Chloride by EPA 300

Seq Number: 3116451

MB Sample Id: 7696580-1-BLK

Matrix: Solid

LCS Sample Id: 7696580-1-BKS

Prep Method: E300P

Date Prep: 02.13.20

LCSD Sample Id: 7696580-1-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	262	105	90-110	3	20	mg/kg	02.13.20 12:25	

Analytical Method: Chloride by EPA 300

Seq Number: 3116482

MB Sample Id: 7696581-1-BLK

Matrix: Solid

LCS Sample Id: 7696581-1-BKS

Prep Method: E300P

Date Prep: 02.13.20

LCSD Sample Id: 7696581-1-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	258	103	90-110	1	20	mg/kg	02.13.20 15:34	

Analytical Method: Chloride by EPA 300

Seq Number: 3116451

Parent Sample Id: 652249-001

Matrix: Soil

MS Sample Id: 652249-001 S

Prep Method: E300P

Date Prep: 02.13.20

MSD Sample Id: 652249-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	278	201	492	106	493	107	90-110	0	20	mg/kg	02.13.20 12:41	

Analytical Method: Chloride by EPA 300

Seq Number: 3116451

Parent Sample Id: 652255-001

Matrix: Soil

MS Sample Id: 652255-001 S

Prep Method: E300P

Date Prep: 02.13.20

MSD Sample Id: 652255-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	305	200	512	104	516	106	90-110	1	20	mg/kg	02.13.20 14:05	

Analytical Method: Chloride by EPA 300

Seq Number: 3116482

Parent Sample Id: 652161-022

Matrix: Soil

MS Sample Id: 652161-022 S

Prep Method: E300P

Date Prep: 02.13.20

MSD Sample Id: 652161-022 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	24.7	199	238	107	234	105	90-110	2	20	mg/kg	02.13.20 17:15	

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

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

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

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



LT Environmental, Inc.

Big Sinks 2-24-30

Analytical Method: Chloride by EPA 300

Seq Number: 3116482

Parent Sample Id: 652258-004

Matrix: Soil

MS Sample Id: 652258-004 S

Prep Method: E300P

Date Prep: 02.13.20

MSD Sample Id: 652258-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	7.59	201	217	104	216	104	90-110	0	20	mg/kg	02.13.20 15:52	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116469

MB Sample Id: 7696566-1-BLK

Matrix: Solid

LCS Sample Id: 7696566-1-BKS

Prep Method: SW8015P

Date Prep: 02.13.20

LCSD Sample Id: 7696566-1-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	895	90	853	85	70-135	5	35	mg/kg	02.13.20 10:11	
Diesel Range Organics (DRO)	<50.0	1000	980	98	759	76	70-135	25	35	mg/kg	02.13.20 10:11	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		135		114		70-135	%	02.13.20 10:11
o-Terphenyl	129		127		100		70-135	%	02.13.20 10:11

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116490

MB Sample Id: 7696611-1-BLK

Matrix: Solid

LCS Sample Id: 7696611-1-BKS

Prep Method: SW8015P

Date Prep: 02.13.20

LCSD Sample Id: 7696611-1-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	791	79	917	92	70-135	15	35	mg/kg	02.13.20 17:16	
Diesel Range Organics (DRO)	<50.0	1000	842	84	1020	102	70-135	19	35	mg/kg	02.13.20 17:16	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	131		124		132		70-135	%	02.13.20 17:16
o-Terphenyl	127		121		121		70-135	%	02.13.20 17:16

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116469

Matrix: Solid

MB Sample Id: 7696566-1-BLK

Prep Method: SW8015P

Date Prep: 02.13.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.13.20 09:51	

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

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

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

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



LT Environmental, Inc.

Big Sinks 2-24-30

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116490

Matrix: Solid

Prep Method: SW8015P

Date Prep: 02.13.20

MB Sample Id: 7696611-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.13.20 16:56	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116469

Matrix: Soil

Prep Method: SW8015P

Date Prep: 02.13.20

Parent Sample Id: 652249-001

MS Sample Id: 652249-001 S

MSD Sample Id: 652249-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	897	90	909	91	70-135	1	35	mg/kg	02.13.20 14:36	
Diesel Range Organics (DRO)	4330	1000	4990	66	5180	85	70-135	4	35	mg/kg	02.13.20 14:36	X

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		126		70-135	%	02.13.20 14:36
o-Terphenyl	108		105		70-135	%	02.13.20 14:36

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116490

Matrix: Soil

Prep Method: SW8015P

Date Prep: 02.13.20

Parent Sample Id: 652258-004

MS Sample Id: 652258-004 S

MSD Sample Id: 652258-004 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)	<50.3	1010	971	96	904	90	70-135	7	35	mg/kg	02.13.20 17:36	
Diesel Range Organics (DRO)	<50.3	1010	1050	104	990	99	70-135	6	35	mg/kg	02.13.20 17:36	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		110		70-135	%	02.13.20 17:36
o-Terphenyl	113		116		70-135	%	02.13.20 17:36

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. = $\text{Log}(\text{Sample Duplicate}) - \text{Log}(\text{Original Sample})$

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

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



LT Environmental, Inc.

Big Sinks 2-24-30

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116480

MB Sample Id: 7696582-1-BLK

Matrix: Solid

LCS Sample Id: 7696582-1-BKS

Prep Method: SW5030B

Date Prep: 02.13.20

LCSD Sample Id: 7696582-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.105	105	0.108	108	70-130	3	35	mg/kg	02.13.20 12:09	
Toluene	<0.00200	0.100	0.103	103	0.105	105	70-130	2	35	mg/kg	02.13.20 12:09	
Ethylbenzene	<0.00200	0.100	0.0999	100	0.102	102	71-129	2	35	mg/kg	02.13.20 12:09	
m,p-Xylenes	<0.00400	0.200	0.206	103	0.209	105	70-135	1	35	mg/kg	02.13.20 12:09	
o-Xylene	<0.00200	0.100	0.102	102	0.104	104	71-133	2	35	mg/kg	02.13.20 12:09	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		104		104		70-130	%	02.13.20 12:09
4-Bromofluorobenzene	94		93		92		70-130	%	02.13.20 12:09

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116481

MB Sample Id: 7696584-1-BLK

Matrix: Solid

LCS Sample Id: 7696584-1-BKS

Prep Method: SW5030B

Date Prep: 02.13.20

LCSD Sample Id: 7696584-1-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	0.0998	100	0.0980	98	70-130	2	35	mg/kg	02.13.20 23:02	
Toluene	<0.00200	0.100	0.0966	97	0.0970	97	70-130	0	35	mg/kg	02.13.20 23:02	
Ethylbenzene	<0.00200	0.100	0.0929	93	0.0938	94	71-129	1	35	mg/kg	02.13.20 23:02	
m,p-Xylenes	<0.00400	0.200	0.191	96	0.194	97	70-135	2	35	mg/kg	02.13.20 23:02	
o-Xylene	<0.00200	0.100	0.0959	96	0.0952	95	71-133	1	35	mg/kg	02.13.20 23:02	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		104		104		70-130	%	02.13.20 23:02
4-Bromofluorobenzene	96		97		94		70-130	%	02.13.20 23:02

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116480

Parent Sample Id: 652249-001

Matrix: Soil

MS Sample Id: 652249-001 S

Prep Method: SW5030B

Date Prep: 02.13.20

MSD Sample Id: 652249-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.0196	0.980	1.01	103	1.02	102	70-130	1	35	mg/kg	02.13.20 12:50	
Toluene	<0.0196	0.980	0.933	95	0.933	93	70-130	0	35	mg/kg	02.13.20 12:50	
Ethylbenzene	<0.0196	0.980	0.832	85	0.835	84	71-129	0	35	mg/kg	02.13.20 12:50	
m,p-Xylenes	<0.0392	1.96	1.66	85	1.72	86	70-135	4	35	mg/kg	02.13.20 12:50	
o-Xylene	<0.0196	0.980	0.815	83	0.824	82	71-133	1	35	mg/kg	02.13.20 12:50	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		103		70-130	%	02.13.20 12:50
4-Bromofluorobenzene	89		107		70-130	%	02.13.20 12:50

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

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

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

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



LT Environmental, Inc.

Big Sinks 2-24-30

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116481

Parent Sample Id: 652258-004

Matrix: Soil

MS Sample Id: 652258-004 S

Prep Method: SW5030B

Date Prep: 02.13.20

MSD Sample Id: 652258-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0926	93	0.0899	90	70-130	3	35	mg/kg	02.13.20 23:42	
Toluene	<0.00200	0.100	0.0856	86	0.0843	85	70-130	2	35	mg/kg	02.13.20 23:42	
Ethylbenzene	<0.00200	0.100	0.0754	75	0.0744	75	71-129	1	35	mg/kg	02.13.20 23:42	
m,p-Xylenes	<0.00400	0.200	0.162	81	0.159	80	70-135	2	35	mg/kg	02.13.20 23:42	
o-Xylene	<0.00200	0.100	0.0818	82	0.0801	81	71-133	2	35	mg/kg	02.13.20 23:42	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		105		70-130	%	02.13.20 23:42
4-Bromofluorobenzene	96		96		70-130	%	02.13.20 23:42

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

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

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

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



Chain of Custody

Work Order No: 1652258

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) 382-7550 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-6800 Tampa, FL (813) 620-2000

www.xenco.com

Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Litrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	522 W. Mermod St.
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	jlitrell@xenco.com, dmoir@ltenv.com

Project Name:	B3 Saks 2-24-30	Turn Around	Routine
Project Number:	012919074	Rush:	
P.O. Number:	28P-5412	Due Date:	
Sampler's Name:	Jeremy Hill		

SAMPLE RECEIPT				ANALYSIS REQUEST				Work Order Notes	
Temp Blank	Yes	No	Wet Ice	Yes	No	Number of Containers		TAT starts the day received by the lab, if received by 4:30pm	Sample Comments
Temperature (°C):	1.0					TPH (EPA 8015)	X		
Received Intact:	Yes	No	Thermometer ID	FLM007		BTEX (EPA 0-8021)	X		
Cooler Custody Seals:	Yes	No	Correction Factor:	-0.2		Chloride (EPA 300.0)	X		
Sample Custody Seals:	Yes	No	Total Containers:	9					
Sample Identification		Matrix	Date Sampled	Time Sampled	Depth				
BH01		S	2-12-20	1615	0.5'				
BH01E BH01B				1050	7'				
BH01B BH01A				1035	4'				
BH03				1110	0.5'				
BH03A				1115	1.0'				
BH03B BH02B				1170	4.0'				
BH05				1155	0.5'				
BH05B BH03A				1205	2.0'				
BH05D BH03B				1215	4.0'				

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn

TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U

1631 / 245.1 / 7470 / 7471 : Hg

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

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02.13.2020 08.50.00 AM

Work Order #: 652258

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: 02.13.2020

Checklist reviewed by:



Jessica Kramer

Date: 02.13.2020

Analytical Report 652379

**for
LT Environmental, Inc.**

Project Manager: Dan Moir

Big Sinks 2-24-30

012919074

26-FEB-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)



26-FEB-20

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

Reference: XENCO Report No(s): **652379**
Big Sinks 2-24-30
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) 652379. 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. 652379 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'. The signature is written in a cursive, flowing style.

Jessica Kramer
Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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

**Sample Cross Reference 652379****LT Environmental, Inc., Arvada, CO**

Big Sinks 2-24-30

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW22	S	02-13-20 09:26	0 - 4 ft	652379-001
SW23	S	02-13-20 09:32	0 - 4 ft	652379-002
SW24	S	02-13-20 09:36	0 - 4 ft	652379-003
SW25	S	02-13-20 13:02	0 - 6 ft	652379-004
SW26	S	02-13-20 13:07	0 - 6 ft	652379-005
FS38	S	02-13-20 13:32	3 ft	652379-006
FS39	S	02-13-20 14:58	7 ft	652379-007



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Big Sinks 2-24-30

Project ID: 012919074
Work Order Number(s): 652379

Report Date: 26-FEB-20
Date Received: 02/13/2020

Sample receipt non conformances and comments:

V1.001 - Revision (client email) Corrected sample names as follows below. JK 02/26/20

SW24 --> SW22

SW25 --> SW23

SW26 --> SW24

SW27 --> SW25

SW28 --> SW26

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3116481 BTEX by EPA 8021B

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



Certificate of Analysis Summary 652379

LT Environmental, Inc., Arvada, CO

Project Name: Big Sinks 2-24-30

Project Id: 012919074

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu Feb-13-20 04:43 pm

Report Date: 26-FEB-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	652379-001	652379-002	652379-003	652379-004	652379-005	652379-006
	Field Id:	SW22	SW23	SW24	SW25	SW26	FS38
	Depth:	0-4 ft	0-4 ft	0-4 ft	0-6 ft	0-6 ft	3- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Feb-13-20 09:26	Feb-13-20 09:32	Feb-13-20 09:36	Feb-13-20 13:02	Feb-13-20 13:07	Feb-13-20 13:32
BTEX by EPA 8021B	Extracted:	Feb-13-20 18:00	Feb-13-20 18:00	Feb-13-20 18:00	Feb-13-20 18:00	Feb-13-20 18:00	Feb-13-20 18:00
	Analyzed:	Feb-14-20 06:51	Feb-14-20 05:29	Feb-14-20 07:12	Feb-14-20 05:50	Feb-14-20 06:10	Feb-14-20 06:31
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.0250 0.0250	<0.00200 0.00200	<0.0167 0.0167	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Toluene		0.0385 0.0250	<0.00200 0.00200	0.156 0.0667	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Ethylbenzene		0.194 0.100	<0.00200 0.00200	0.841 0.0667	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
m,p-Xylenes		0.898 0.200	<0.00399 0.00399	3.84 0.133	<0.00401 0.00401	<0.00402 0.00402	<0.00400 0.00400
o-Xylene		0.718 0.100	0.00313 0.00200	2.40 0.0667	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Total Xylenes		1.62 0.100	0.00313 0.00200	6.24 0.0667	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Total BTEX		1.85 0.0250	0.00313 0.00200	7.24 0.0167	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Chloride by EPA 300	Extracted:	Feb-13-20 17:33	Feb-13-20 17:33	Feb-13-20 17:33	Feb-13-20 17:33	Feb-13-20 17:33	Feb-13-20 17:33
	Analyzed:	Feb-13-20 23:14	Feb-13-20 23:20	Feb-13-20 23:27	Feb-13-20 23:33	Feb-13-20 23:39	Feb-14-20 08:02
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<9.94 9.94	<9.98 9.98	<9.94 9.94	<9.94 9.94	<9.96 9.96	<9.94 9.94
TPH by SW8015 Mod	Extracted:	Feb-13-20 16:50	Feb-13-20 16:50	Feb-13-20 16:50	Feb-13-20 16:50	Feb-13-20 16:50	Feb-13-20 16:50
	Analyzed:	Feb-13-20 20:35	Feb-13-20 19:56	Feb-13-20 20:55	Feb-13-20 20:15	Feb-13-20 20:15	Feb-13-20 20:35
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		291 50.2	<50.1 50.1	266 50.2	<50.0 50.0	<50.0 50.0	<50.3 50.3
Diesel Range Organics (DRO)		1570 50.2	231 50.1	1590 50.2	<50.0 50.0	<50.0 50.0	<50.3 50.3
Motor Oil Range Hydrocarbons (MRO)		122 50.2	<50.1 50.1	124 50.2	<50.0 50.0	<50.0 50.0	<50.3 50.3
Total GRO-DRO		1860 50.2	231 50.1	1860 50.2	<50.0 50.0	<50.0 50.0	<50.3 50.3
Total TPH		1980 50.2	231 50.1	1980 50.2	<50.0 50.0	<50.0 50.0	<50.3 50.3

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

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

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 652379

LT Environmental, Inc., Arvada, CO

Project Name: Big Sinks 2-24-30

Project Id: 012919074

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu Feb-13-20 04:43 pm

Report Date: 26-FEB-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	652379-007					
	Field Id:	FS39					
	Depth:	7- ft					
	Matrix:	SOIL					
	Sampled:	Feb-13-20 14:58					
BTEX by EPA 8021B	Extracted:	Feb-13-20 18:00					
	Analyzed:	Feb-14-20 07:32					
	Units/RL:	mg/kg RL					
Benzene		<0.0208 0.0208					
Toluene		0.0258 0.0208					
Ethylbenzene		0.326 0.0833					
m,p-Xylenes		1.20 0.167					
o-Xylene		1.28 0.0833					
Total Xylenes		2.48 0.0833					
Total BTEX		2.83 0.0208					
Chloride by EPA 300	Extracted:	Feb-13-20 17:33					
	Analyzed:	Feb-14-20 08:08					
	Units/RL:	mg/kg RL					
Chloride		<9.92 9.92					
TPH by SW8015 Mod	Extracted:	Feb-13-20 16:50					
	Analyzed:	Feb-13-20 20:55					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		371 50.1					
Diesel Range Organics (DRO)		2080 50.1					
Motor Oil Range Hydrocarbons (MRO)		158 50.1					
Total GRO-DRO		2450 50.1					
Total TPH		2610 50.1					

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

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

Jessica Kramer
Project Assistant



Certificate of Analytical Results 652379

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW22**
Lab Sample Id: 652379-001

Matrix: Soil
Date Collected: 02.13.20 09.26

Date Received: 02.13.20 16.43
Sample Depth: 0 - 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116485

Date Prep: 02.13.20 17.33

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.94	9.94	mg/kg	02.13.20 23.14	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116490

Date Prep: 02.13.20 16.50

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	291	50.2	mg/kg	02.13.20 20.35		1
Diesel Range Organics (DRO)	C10C28DRO	1570	50.2	mg/kg	02.13.20 20.35		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	122	50.2	mg/kg	02.13.20 20.35		1
Total GRO-DRO	PHC628	1860	50.2	mg/kg	02.13.20 20.35		1
Total TPH	PHC635	1980	50.2	mg/kg	02.13.20 20.35		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	02.13.20 20.35	
o-Terphenyl	84-15-1	109	%	70-135	02.13.20 20.35	



Certificate of Analytical Results 652379

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW22**
Lab Sample Id: 652379-001

Matrix: Soil
Date Collected: 02.13.20 09.26

Date Received: 02.13.20 16.43
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.13.20 18.00

Basis: Wet Weight

Seq Number: 3116481

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0250	0.0250	mg/kg	02.14.20 06.51	U	1
Toluene	108-88-3	0.0385	0.0250	mg/kg	02.14.20 06.51		1
Ethylbenzene	100-41-4	0.194	0.100	mg/kg	02.14.20 06.51		1
m,p-Xylenes	179601-23-1	0.898	0.200	mg/kg	02.14.20 06.51		1
o-Xylene	95-47-6	0.718	0.100	mg/kg	02.14.20 06.51		1
Total Xylenes	1330-20-7	1.62	0.100	mg/kg	02.14.20 06.51		1
Total BTEX		1.85	0.0250	mg/kg	02.14.20 06.51		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.14.20 06.51		
1,4-Difluorobenzene	540-36-3	99	%	70-130	02.14.20 06.51		



Certificate of Analytical Results 652379

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW23**
Lab Sample Id: 652379-002

Matrix: Soil
Date Collected: 02.13.20 09.32

Date Received: 02.13.20 16.43
Sample Depth: 0 - 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116485

Date Prep: 02.13.20 17.33

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	02.13.20 23.20	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116490

Date Prep: 02.13.20 16.50

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.13.20 19.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	231	50.1	mg/kg	02.13.20 19.56		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	02.13.20 19.56	U	1
Total GRO-DRO	PHC628	231	50.1	mg/kg	02.13.20 19.56		1
Total TPH	PHC635	231	50.1	mg/kg	02.13.20 19.56		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	02.13.20 19.56	
o-Terphenyl	84-15-1	104	%	70-135	02.13.20 19.56	



Certificate of Analytical Results 652379

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW23**
Lab Sample Id: 652379-002

Matrix: Soil
Date Collected: 02.13.20 09.32

Date Received: 02.13.20 16.43
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.13.20 18.00

Basis: Wet Weight

Seq Number: 3116481

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.14.20 05.29	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.14.20 05.29	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.14.20 05.29	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	02.14.20 05.29	U	1
o-Xylene	95-47-6	0.00313	0.00200	mg/kg	02.14.20 05.29		1
Total Xylenes	1330-20-7	0.00313	0.00200	mg/kg	02.14.20 05.29		1
Total BTEX		0.00313	0.00200	mg/kg	02.14.20 05.29		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.14.20 05.29		
1,4-Difluorobenzene	540-36-3	98	%	70-130	02.14.20 05.29		



Certificate of Analytical Results 652379

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW24**
Lab Sample Id: 652379-003

Matrix: Soil
Date Collected: 02.13.20 09.36

Date Received: 02.13.20 16.43
Sample Depth: 0 - 4 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116485

Date Prep: 02.13.20 17.33

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.94	9.94	mg/kg	02.13.20 23.27	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116490

Date Prep: 02.13.20 16.50

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	266	50.2	mg/kg	02.13.20 20.55		1
Diesel Range Organics (DRO)	C10C28DRO	1590	50.2	mg/kg	02.13.20 20.55		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	124	50.2	mg/kg	02.13.20 20.55		1
Total GRO-DRO	PHC628	1860	50.2	mg/kg	02.13.20 20.55		1
Total TPH	PHC635	1980	50.2	mg/kg	02.13.20 20.55		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	02.13.20 20.55	
o-Terphenyl	84-15-1	115	%	70-135	02.13.20 20.55	



Certificate of Analytical Results 652379

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW24**
Lab Sample Id: 652379-003

Matrix: Soil
Date Collected: 02.13.20 09.36

Date Received: 02.13.20 16.43
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.13.20 18.00

Basis: Wet Weight

Seq Number: 3116481

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0167	0.0167	mg/kg	02.14.20 07.12	U	1
Toluene	108-88-3	0.156	0.0667	mg/kg	02.14.20 07.12		1
Ethylbenzene	100-41-4	0.841	0.0667	mg/kg	02.14.20 07.12		1
m,p-Xylenes	179601-23-1	3.84	0.133	mg/kg	02.14.20 07.12		1
o-Xylene	95-47-6	2.40	0.0667	mg/kg	02.14.20 07.12		1
Total Xylenes	1330-20-7	6.24	0.0667	mg/kg	02.14.20 07.12		1
Total BTEX		7.24	0.0167	mg/kg	02.14.20 07.12		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	02.14.20 07.12		
4-Bromofluorobenzene	460-00-4	109	%	70-130	02.14.20 07.12		



Certificate of Analytical Results 652379

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW25**
Lab Sample Id: 652379-004

Matrix: Soil
Date Collected: 02.13.20 13.02

Date Received: 02.13.20 16.43
Sample Depth: 0 - 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116485

Date Prep: 02.13.20 17.33

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.94	9.94	mg/kg	02.13.20 23.33	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116490

Date Prep: 02.13.20 16.50

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.13.20 20.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.13.20 20.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.13.20 20.15	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.13.20 20.15	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.13.20 20.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	02.13.20 20.15	
o-Terphenyl	84-15-1	109	%	70-135	02.13.20 20.15	



Certificate of Analytical Results 652379

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW25**
Lab Sample Id: 652379-004

Matrix: Soil
Date Collected: 02.13.20 13.02

Date Received: 02.13.20 16.43
Sample Depth: 0 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.13.20 18.00

Basis: Wet Weight

Seq Number: 3116481

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.14.20 05.50	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.14.20 05.50	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.14.20 05.50	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	02.14.20 05.50	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.14.20 05.50	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.14.20 05.50	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.14.20 05.50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	124	%	70-130	02.14.20 05.50		
1,4-Difluorobenzene	540-36-3	103	%	70-130	02.14.20 05.50		



Certificate of Analytical Results 652379

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW26**
Lab Sample Id: 652379-005

Matrix: Soil
Date Collected: 02.13.20 13.07

Date Received: 02.13.20 16.43
Sample Depth: 0 - 6 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116485

Date Prep: 02.13.20 17.33

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.96	9.96	mg/kg	02.13.20 23.39	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116490

Date Prep: 02.13.20 16.50

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.13.20 20.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	02.13.20 20.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.13.20 20.15	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	02.13.20 20.15	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	02.13.20 20.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	02.13.20 20.15	
o-Terphenyl	84-15-1	94	%	70-135	02.13.20 20.15	



Certificate of Analytical Results 652379

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **SW26**
Lab Sample Id: 652379-005

Matrix: Soil
Date Collected: 02.13.20 13.07

Date Received: 02.13.20 16.43
Sample Depth: 0 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.13.20 18.00

Basis: Wet Weight

Seq Number: 3116481

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.14.20 06.10	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.14.20 06.10	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.14.20 06.10	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.14.20 06.10	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.14.20 06.10	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.14.20 06.10	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.14.20 06.10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.14.20 06.10		
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.14.20 06.10		



Certificate of Analytical Results 652379

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **FS38**
Lab Sample Id: 652379-006

Matrix: Soil
Date Collected: 02.13.20 13.32

Date Received: 02.13.20 16.43
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3116485

Date Prep: 02.13.20 17.33

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.94	9.94	mg/kg	02.14.20 08.02	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3116490

Date Prep: 02.13.20 16.50

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	02.13.20 20.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	02.13.20 20.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	02.13.20 20.35	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	02.13.20 20.35	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	02.13.20 20.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	02.13.20 20.35	
o-Terphenyl	84-15-1	108	%	70-135	02.13.20 20.35	



Certificate of Analytical Results 652379

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **FS38**
Lab Sample Id: 652379-006

Matrix: Soil
Date Collected: 02.13.20 13.32

Date Received: 02.13.20 16.43
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.13.20 18.00

Basis: Wet Weight

Seq Number: 3116481

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.14.20 06.31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.14.20 06.31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.14.20 06.31	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.14.20 06.31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.14.20 06.31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.14.20 06.31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.14.20 06.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.14.20 06.31		
4-Bromofluorobenzene	460-00-4	96	%	70-130	02.14.20 06.31		



Certificate of Analytical Results 652379

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **FS39** Matrix: Soil Date Received: 02.13.20 16.43
 Lab Sample Id: 652379-007 Date Collected: 02.13.20 14.58 Sample Depth: 7 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 02.13.20 17.33 Basis: Wet Weight
 Seq Number: 3116485

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.92	9.92	mg/kg	02.14.20 08.08	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 02.13.20 16.50 Basis: Wet Weight
 Seq Number: 3116490

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	371	50.1	mg/kg	02.13.20 20.55		1
Diesel Range Organics (DRO)	C10C28DRO	2080	50.1	mg/kg	02.13.20 20.55		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	158	50.1	mg/kg	02.13.20 20.55		1
Total GRO-DRO	PHC628	2450	50.1	mg/kg	02.13.20 20.55		1
Total TPH	PHC635	2610	50.1	mg/kg	02.13.20 20.55		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	02.13.20 20.55	
o-Terphenyl	84-15-1	102	%	70-135	02.13.20 20.55	



Certificate of Analytical Results 652379

LT Environmental, Inc., Arvada, CO

Big Sinks 2-24-30

Sample Id: **FS39**
Lab Sample Id: 652379-007

Matrix: Soil
Date Collected: 02.13.20 14.58

Date Received: 02.13.20 16.43
Sample Depth: 7 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.13.20 18.00

Basis: Wet Weight

Seq Number: 3116481

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0208	0.0208	mg/kg	02.14.20 07.32	U	1
Toluene	108-88-3	0.0258	0.0208	mg/kg	02.14.20 07.32		1
Ethylbenzene	100-41-4	0.326	0.0833	mg/kg	02.14.20 07.32		1
m,p-Xylenes	179601-23-1	1.20	0.167	mg/kg	02.14.20 07.32		1
o-Xylene	95-47-6	1.28	0.0833	mg/kg	02.14.20 07.32		1
Total Xylenes	1330-20-7	2.48	0.0833	mg/kg	02.14.20 07.32		1
Total BTEX		2.83	0.0208	mg/kg	02.14.20 07.32		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	02.14.20 07.32		
4-Bromofluorobenzene	460-00-4	116	%	70-130	02.14.20 07.32		



Flagging Criteria

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

****** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

Big Sinks 2-24-30

Analytical Method: Chloride by EPA 300

Seq Number: 3116485

MB Sample Id: 7696623-1-BLK

Matrix: Solid

LCS Sample Id: 7696623-1-BKS

Prep Method: E300P

Date Prep: 02.13.20

LCSD Sample Id: 7696623-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	252	101	252	101	90-110	0	20	mg/kg	02.13.20 22:03	

Analytical Method: Chloride by EPA 300

Seq Number: 3116485

Parent Sample Id: 652372-001

Matrix: Soil

MS Sample Id: 652372-001 S

Prep Method: E300P

Date Prep: 02.13.20

MSD Sample Id: 652372-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2000	201	2180	90	2180	90	90-110	0	20	mg/kg	02.13.20 22:16	

Analytical Method: Chloride by EPA 300

Seq Number: 3116485

Parent Sample Id: 652379-005

Matrix: Soil

MS Sample Id: 652379-005 S

Prep Method: E300P

Date Prep: 02.13.20

MSD Sample Id: 652379-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<9.98	200	216	108	218	109	90-110	1	20	mg/kg	02.13.20 23:46	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116490

MB Sample Id: 7696611-1-BLK

Matrix: Solid

LCS Sample Id: 7696611-1-BKS

Prep Method: SW8015P

Date Prep: 02.13.20

LCSD Sample Id: 7696611-1-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	791	79	917	92	70-135	15	35	mg/kg	02.13.20 17:16	
Diesel Range Organics (DRO)	<50.0	1000	842	84	1020	102	70-135	19	35	mg/kg	02.13.20 17:16	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	131		124		132		70-135	%	02.13.20 17:16
o-Terphenyl	127		121		121		70-135	%	02.13.20 17:16

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116490

Matrix: Solid

MB Sample Id: 7696611-1-BLK

Prep Method: SW8015P

Date Prep: 02.13.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.13.20 16:56	

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

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

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

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



LT Environmental, Inc.

Big Sinks 2-24-30

Analytical Method: TPH by SW8015 Mod

Seq Number: 3116490

Parent Sample Id: 652258-004

Matrix: Soil

MS Sample Id: 652258-004 S

Prep Method: SW8015P

Date Prep: 02.13.20

MSD Sample Id: 652258-004 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)	<50.3	1010	971	96	904	90	70-135	7	35	mg/kg	02.13.20 17:36	
Diesel Range Organics (DRO)	<50.3	1010	1050	104	990	99	70-135	6	35	mg/kg	02.13.20 17:36	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		110		70-135	%	02.13.20 17:36
o-Terphenyl	113		116		70-135	%	02.13.20 17:36

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116481

MB Sample Id: 7696584-1-BLK

Matrix: Solid

LCS Sample Id: 7696584-1-BKS

Prep Method: SW5030B

Date Prep: 02.13.20

LCSD Sample Id: 7696584-1-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	0.0998	100	0.0980	98	70-130	2	35	mg/kg	02.13.20 23:02	
Toluene	<0.00200	0.100	0.0966	97	0.0970	97	70-130	0	35	mg/kg	02.13.20 23:02	
Ethylbenzene	<0.00200	0.100	0.0929	93	0.0938	94	71-129	1	35	mg/kg	02.13.20 23:02	
m,p-Xylenes	<0.00400	0.200	0.191	96	0.194	97	70-135	2	35	mg/kg	02.13.20 23:02	
o-Xylene	<0.00200	0.100	0.0959	96	0.0952	95	71-133	1	35	mg/kg	02.13.20 23:02	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		104		104		70-130	%	02.13.20 23:02
4-Bromofluorobenzene	96		97		94		70-130	%	02.13.20 23:02

Analytical Method: BTEX by EPA 8021B

Seq Number: 3116481

Parent Sample Id: 652258-004

Matrix: Soil

MS Sample Id: 652258-004 S

Prep Method: SW5030B

Date Prep: 02.13.20

MSD Sample Id: 652258-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0926	93	0.0899	90	70-130	3	35	mg/kg	02.13.20 23:42	
Toluene	<0.00200	0.100	0.0856	86	0.0843	85	70-130	2	35	mg/kg	02.13.20 23:42	
Ethylbenzene	<0.00200	0.100	0.0754	75	0.0744	75	71-129	1	35	mg/kg	02.13.20 23:42	
m,p-Xylenes	<0.00400	0.200	0.162	81	0.159	80	70-135	2	35	mg/kg	02.13.20 23:42	
o-Xylene	<0.00200	0.100	0.0818	82	0.0801	81	71-133	2	35	mg/kg	02.13.20 23:42	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		105		70-130	%	02.13.20 23:42
4-Bromofluorobenzene	96		96		70-130	%	02.13.20 23:42

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

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

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

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



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

Chain of Custody

Work Order No:

1052339

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Little
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	533 W. Merid St
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Midland, TX 79705
Phone:	(432) 236-3849	Email:	dmair@ltenv.com, klittle@xto.com

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

ANALYSIS REQUEST

Work Order Notes

Project Name:	B. S. S. 2-34-30	Turn Around	
Project Number:	018419074	Routine	☐
P.O. Number:	2K8-5432	Rush:	24hr
Sampler's Name:	Jeremy Hill	Due Date:	2-11-20

SAMPLE RECEIPT	Temp Blank:	☒ Yes	☒ No	Well Ice:	☒ Yes	☒ No
Temperature (°C):	3.8	Thermometer ID				
Received Intact:	☒ Yes	☒ No	Correction Factor:	-0.04		
Cooler Custody Seals:	☒ Yes	☒ No	Total Containers:	2		
Sample Custody Seals:	☒ Yes	☒ No				

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0-8021)	Chloride (EPA 300.0)	Analysis Results
5004 SW22	S	2/13/20	0426	0-4'	1	X	X	X	
5005 SW23	S		0433	0-4'	1	X	X	X	
5006 SW24	S		0436	0-4'	1	X	X	X	
5007 SW25	S		1303	0-6'	1	X	X	X	
5008 SW26	S		1307	0-6'	1	X	X	X	
F538	S		1733	3'	1	X	X	X	
F537	S		1759	7'	1	X	X	X	
	S								
	S								
	S								

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		2/13/2018:45			

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 02.13.2020 04.43.00 PM

Work Order #: 652379

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.8
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Elizabeth McClellan

Date: 02.13.2020

Checklist reviewed by:



Jessica Kramer

Date: 02.14.2020

Analytical Report 653026

**for
LT Environmental, Inc.**

Project Manager: Dan Moir

PLU Big Sinks 2-24-30

26-FEB-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)



26-FEB-20

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

Reference: XENCO Report No(s): **653026**
PLU Big Sinks 2-24-30
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) 653026. 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. 653026 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'. The signature is written in a cursive, flowing style.

Jessica Kramer
Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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

**Sample Cross Reference 653026****LT Environmental, Inc., Arvada, CO**

PLU Big Sinks 2-24-30

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS31	S	02-18-20 11:20	5 ft	653026-001
FS32	S	02-18-20 11:25	5 ft	653026-002
SW27	S	02-18-20 11:30	0 - 5 ft	653026-003
SW28	S	02-18-20 11:35	0 - 4.5 ft	653026-004
SW29	S	02-18-20 12:55	0 - 8.5 ft	653026-005
FS39A	S	02-18-20 13:00	8.5 ft	653026-006
FS40	S	02-18-20 13:05	8.5 ft	653026-007
SW30	S	02-18-20 13:10	0 - 8.5 ft	653026-008



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU Big Sinks 2-24-30

Project ID:
Work Order Number(s): 653026

Report Date: 26-FEB-20
Date Received: 02/19/2020

Sample receipt non conformances and comments:

V1.001 - Revision (client email) Corrected sample names as follows below. JK 02/26/20

FS31A --> FS31

FS32A --> FS32

SW29 --> SW27

SW30 --> SW28

SW31 --> SW29

SW32 --> SW30

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3117054 BTEX by EPA 8021B

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

Batch: LBA-3117055 BTEX by EPA 8021B

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



Certificate of Analysis Summary 653026

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 2-24-30

Project Id:

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed Feb-19-20 04:19 pm

Report Date: 26-FEB-20

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	653026-001	653026-002	653026-003	653026-004	653026-005	653026-006
	<i>Field Id:</i>	FS31	FS32	SW27	SW28	SW29	FS39A
	<i>Depth:</i>	5- ft	5- ft	0-5 ft	0-4.5 ft	0-8.5 ft	8.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Feb-18-20 11:20	Feb-18-20 11:25	Feb-18-20 11:30	Feb-18-20 11:35	Feb-18-20 12:55	Feb-18-20 13:00
BTEX by EPA 8021B	<i>Extracted:</i>	*** ** *	*** ** *	*** ** *	*** ** *	*** ** *	*** ** *
	<i>Analyzed:</i>	Feb-19-20 22:05	Feb-20-20 00:08	Feb-19-20 22:26	Feb-19-20 22:46	Feb-19-20 23:06	Feb-19-20 23:27
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00917 0.00917	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200
Toluene		<0.00917 0.00917	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	0.0229 0.00199	<0.00200 0.00200
Ethylbenzene		<0.00917 0.00917	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199	0.109 0.00199	<0.00200 0.00200
m,p-Xylenes		<0.0183 0.0183	<0.00402 0.00402	<0.00400 0.00400	0.00604 0.00398	0.0671 0.00398	<0.00400 0.00400
o-Xylene		<0.00917 0.00917	<0.00201 0.00201	<0.00200 0.00200	0.00615 0.00199	0.0387 0.00199	<0.00200 0.00200
Total Xylenes		<0.00917 0.00917	<0.00201 0.00201	<0.00200 0.00200	0.0122 0.00199	0.106 0.00199	<0.00200 0.00200
Total BTEX		<0.00917 0.00917	<0.00201 0.00201	<0.00200 0.00200	0.0122 0.00199	0.238 0.00199	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	*** ** *	*** ** *	*** ** *	*** ** *	*** ** *	*** ** *
	<i>Analyzed:</i>	Feb-19-20 17:56	Feb-19-20 18:15	Feb-19-20 18:21	Feb-19-20 18:27	Feb-19-20 18:34	Feb-19-20 18:40
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		12.6 10.1	12.8 9.96	<9.94 9.94	<9.88 9.88	<9.98 9.98	12.4 9.96
TPH by SW8015 Mod	<i>Extracted:</i>	Feb-19-20 17:00	Feb-19-20 16:42	Feb-19-20 16:42	Feb-19-20 16:42	Feb-19-20 16:42	Feb-19-20 16:42
	<i>Analyzed:</i>	Feb-19-20 22:08	Feb-19-20 19:09	Feb-19-20 19:09	Feb-19-20 19:29	Feb-19-20 20:08	Feb-19-20 19:29
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	<50.0 50.0	<50.1 50.1	<49.9 49.9	120 50.1	<50.3 50.3
Diesel Range Organics (DRO)		<50.2 50.2	120 50.0	<50.1 50.1	73.0 49.9	2490 50.1	<50.3 50.3
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<50.0 50.0	<50.1 50.1	<49.9 49.9	225 50.1	<50.3 50.3
Total GRO-DRO		<50.2 50.2	120 50.0	<50.1 50.1	73.0 49.9	2610 50.1	<50.3 50.3
Total TPH		<50.2 50.2	120 50.0	<50.1 50.1	73.0 49.9	2840 50.1	<50.3 50.3

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

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

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 653026

LT Environmental, Inc., Arvada, CO

Project Name: PLU Big Sinks 2-24-30

Project Id:

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed Feb-19-20 04:19 pm

Report Date: 26-FEB-20

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	653026-007	653026-008				
	Field Id:	FS40	SW30				
	Depth:	8.5- ft	0-8.5 ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Feb-18-20 13:05	Feb-18-20 13:10				
BTEX by EPA 8021B	Extracted:	*** ** *		Feb-19-20 17:30			
	Analyzed:	Feb-19-20 23:47		Feb-20-20 04:33			
	Units/RL:	mg/kg	RL	mg/kg	RL		
Benzene		<0.00201	0.00201	<0.00202	0.00202		
Toluene		<0.00201	0.00201	<0.00202	0.00202		
Ethylbenzene		<0.00201	0.00201	<0.00202	0.00202		
m,p-Xylenes		0.00915	0.00402	0.00471	0.00403		
o-Xylene		0.00833	0.00201	0.00338	0.00202		
Total Xylenes		0.0175	0.00201	0.00809	0.00202		
Total BTEX		0.0175	0.00201	0.00809	0.00202		
Chloride by EPA 300	Extracted:	*** ** *		*** ** *			
	Analyzed:	Feb-19-20 18:46		Feb-19-20 18:52			
	Units/RL:	mg/kg	RL	mg/kg	RL		
Chloride		<9.92	9.92	<9.98	9.98		
TPH by SW8015 Mod	Extracted:	Feb-19-20 16:42		Feb-19-20 16:42			
	Analyzed:	Feb-19-20 19:48		Feb-19-20 19:48			
	Units/RL:	mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		<49.8	49.8	<50.2	50.2		
Diesel Range Organics (DRO)		83.8	49.8	<50.2	50.2		
Motor Oil Range Hydrocarbons (MRO)		<49.8	49.8	<50.2	50.2		
Total GRO-DRO		83.8	49.8	<50.2	50.2		
Total TPH		83.8	49.8	<50.2	50.2		

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

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

Jessica Kramer
Project Assistant



Certificate of Analytical Results 653026

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS31**
Lab Sample Id: 653026-001

Matrix: Soil
Date Collected: 02.18.20 11.20

Date Received: 02.19.20 16.19
Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3117048

Date Prep: 02.19.20 14.46

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.6	10.1	mg/kg	02.19.20 17.56		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3117108

Date Prep: 02.19.20 17.00

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.19.20 22.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	02.19.20 22.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.19.20 22.08	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	02.19.20 22.08	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	02.19.20 22.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	02.19.20 22.08	
o-Terphenyl	84-15-1	108	%	70-135	02.19.20 22.08	



Certificate of Analytical Results 653026

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS31**
Lab Sample Id: 653026-001

Matrix: Soil
Date Collected: 02.18.20 11.20

Date Received: 02.19.20 16.19
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3117054

Date Prep: 02.19.20 14.42

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00917	0.00917	mg/kg	02.19.20 22.05	U	1
Toluene	108-88-3	<0.00917	0.00917	mg/kg	02.19.20 22.05	U	1
Ethylbenzene	100-41-4	<0.00917	0.00917	mg/kg	02.19.20 22.05	U	1
m,p-Xylenes	179601-23-1	<0.0183	0.0183	mg/kg	02.19.20 22.05	U	1
o-Xylene	95-47-6	<0.00917	0.00917	mg/kg	02.19.20 22.05	U	1
Total Xylenes	1330-20-7	<0.00917	0.00917	mg/kg	02.19.20 22.05	U	1
Total BTEX		<0.00917	0.00917	mg/kg	02.19.20 22.05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	92	%	70-130	02.19.20 22.05		
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.19.20 22.05		



Certificate of Analytical Results 653026

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: FS32
Lab Sample Id: 653026-002

Matrix: Soil
Date Collected: 02.18.20 11.25

Date Received: 02.19.20 16.19
Sample Depth: 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3117048

Date Prep: 02.19.20 14.46

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.8	9.96	mg/kg	02.19.20 18.15		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3117087

Date Prep: 02.19.20 16.42

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	02.19.20 19.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	120	50.0	mg/kg	02.19.20 19.09		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	02.19.20 19.09	U	1
Total GRO-DRO	PHC628	120	50.0	mg/kg	02.19.20 19.09		1
Total TPH	PHC635	120	50.0	mg/kg	02.19.20 19.09		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	02.19.20 19.09	
o-Terphenyl	84-15-1	101	%	70-135	02.19.20 19.09	



Certificate of Analytical Results 653026

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS32**
Lab Sample Id: 653026-002

Matrix: Soil
Date Collected: 02.18.20 11.25

Date Received: 02.19.20 16.19
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.19.20 14.42

Basis: Wet Weight

Seq Number: 3117054

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.20.20 00.08	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.20.20 00.08	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.20.20 00.08	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	02.20.20 00.08	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	02.20.20 00.08	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	02.20.20 00.08	U	1
Total BTEX		<0.00201	0.00201	mg/kg	02.20.20 00.08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	123	%	70-130	02.20.20 00.08		
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.20.20 00.08		



Certificate of Analytical Results 653026

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW27**
Lab Sample Id: 653026-003

Matrix: Soil
Date Collected: 02.18.20 11.30

Date Received: 02.19.20 16.19
Sample Depth: 0 - 5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3117048

Date Prep: 02.19.20 14.46

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.94	9.94	mg/kg	02.19.20 18.21	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3117087

Date Prep: 02.19.20 16.42

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	02.19.20 19.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	02.19.20 19.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	02.19.20 19.09	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	02.19.20 19.09	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	02.19.20 19.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	02.19.20 19.09	
o-Terphenyl	84-15-1	99	%	70-135	02.19.20 19.09	



Certificate of Analytical Results 653026

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW27**
Lab Sample Id: 653026-003

Matrix: Soil
Date Collected: 02.18.20 11.30

Date Received: 02.19.20 16.19
Sample Depth: 0 - 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.19.20 14.42

Basis: Wet Weight

Seq Number: 3117054

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.19.20 22.26	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.19.20 22.26	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.19.20 22.26	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.19.20 22.26	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.19.20 22.26	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.19.20 22.26	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.19.20 22.26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	94	%	70-130	02.19.20 22.26		
1,4-Difluorobenzene	540-36-3	105	%	70-130	02.19.20 22.26		



Certificate of Analytical Results 653026

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW28**
Lab Sample Id: 653026-004

Matrix: Soil
Date Collected: 02.18.20 11.35

Date Received: 02.19.20 16.19
Sample Depth: 0 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3117048

Date Prep: 02.19.20 14.46

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.88	9.88	mg/kg	02.19.20 18.27	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3117087

Date Prep: 02.19.20 16.42

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	02.19.20 19.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	73.0	49.9	mg/kg	02.19.20 19.29		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	02.19.20 19.29	U	1
Total GRO-DRO	PHC628	73.0	49.9	mg/kg	02.19.20 19.29		1
Total TPH	PHC635	73.0	49.9	mg/kg	02.19.20 19.29		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	02.19.20 19.29	
o-Terphenyl	84-15-1	97	%	70-135	02.19.20 19.29	



Certificate of Analytical Results 653026

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW28**
Lab Sample Id: 653026-004

Matrix: Soil
Date Collected: 02.18.20 11.35

Date Received: 02.19.20 16.19
Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3117054

Date Prep: 02.19.20 14.42

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.19.20 22.46	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	02.19.20 22.46	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	02.19.20 22.46	U	1
m,p-Xylenes	179601-23-1	0.00604	0.00398	mg/kg	02.19.20 22.46		1
o-Xylene	95-47-6	0.00615	0.00199	mg/kg	02.19.20 22.46		1
Total Xylenes	1330-20-7	0.0122	0.00199	mg/kg	02.19.20 22.46		1
Total BTEX		0.0122	0.00199	mg/kg	02.19.20 22.46		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	02.19.20 22.46		
4-Bromofluorobenzene	460-00-4	97	%	70-130	02.19.20 22.46		



Certificate of Analytical Results 653026

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW29**
Lab Sample Id: 653026-005

Matrix: Soil
Date Collected: 02.18.20 12.55

Date Received: 02.19.20 16.19
Sample Depth: 0 - 8.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3117048

Date Prep: 02.19.20 14.46

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	02.19.20 18.34	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3117087

Date Prep: 02.19.20 16.42

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	120	50.1	mg/kg	02.19.20 20.08		1
Diesel Range Organics (DRO)	C10C28DRO	2490	50.1	mg/kg	02.19.20 20.08		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	225	50.1	mg/kg	02.19.20 20.08		1
Total GRO-DRO	PHC628	2610	50.1	mg/kg	02.19.20 20.08		1
Total TPH	PHC635	2840	50.1	mg/kg	02.19.20 20.08		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	123	%	70-135	02.19.20 20.08	
o-Terphenyl	84-15-1	111	%	70-135	02.19.20 20.08	



Certificate of Analytical Results 653026

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW29**
Lab Sample Id: 653026-005

Matrix: Soil
Date Collected: 02.18.20 12.55

Date Received: 02.19.20 16.19
Sample Depth: 0 - 8.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.19.20 14.42

Basis: Wet Weight

Seq Number: 3117054

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	02.19.20 23.06	U	1
Toluene	108-88-3	0.0229	0.00199	mg/kg	02.19.20 23.06		1
Ethylbenzene	100-41-4	0.109	0.00199	mg/kg	02.19.20 23.06		1
m,p-Xylenes	179601-23-1	0.0671	0.00398	mg/kg	02.19.20 23.06		1
o-Xylene	95-47-6	0.0387	0.00199	mg/kg	02.19.20 23.06		1
Total Xylenes	1330-20-7	0.106	0.00199	mg/kg	02.19.20 23.06		1
Total BTEX		0.238	0.00199	mg/kg	02.19.20 23.06		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	97	%	70-130	02.19.20 23.06		
4-Bromofluorobenzene	460-00-4	118	%	70-130	02.19.20 23.06		



Certificate of Analytical Results 653026

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS39A**
Lab Sample Id: 653026-006

Matrix: Soil
Date Collected: 02.18.20 13.00

Date Received: 02.19.20 16.19
Sample Depth: 8.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3117048

Date Prep: 02.19.20 14.46

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.4	9.96	mg/kg	02.19.20 18.40		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3117087

Date Prep: 02.19.20 16.42

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	02.19.20 19.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	02.19.20 19.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	02.19.20 19.29	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	02.19.20 19.29	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	02.19.20 19.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	02.19.20 19.29	
o-Terphenyl	84-15-1	100	%	70-135	02.19.20 19.29	



Certificate of Analytical Results 653026

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS39A**
Lab Sample Id: 653026-006

Matrix: Soil
Date Collected: 02.18.20 13.00

Date Received: 02.19.20 16.19
Sample Depth: 8.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 02.19.20 14.42

Basis: Wet Weight

Seq Number: 3117054

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	02.19.20 23.27	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	02.19.20 23.27	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	02.19.20 23.27	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	02.19.20 23.27	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	02.19.20 23.27	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	02.19.20 23.27	U	1
Total BTEX		<0.00200	0.00200	mg/kg	02.19.20 23.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	70-130	02.19.20 23.27		
4-Bromofluorobenzene	460-00-4	99	%	70-130	02.19.20 23.27		



Certificate of Analytical Results 653026

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS40**
Lab Sample Id: 653026-007

Matrix: Soil
Date Collected: 02.18.20 13.05

Date Received: 02.19.20 16.19
Sample Depth: 8.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3117048

Date Prep: 02.19.20 14.46

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.92	9.92	mg/kg	02.19.20 18.46	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3117087

Date Prep: 02.19.20 16.42

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	02.19.20 19.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	83.8	49.8	mg/kg	02.19.20 19.48		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	02.19.20 19.48	U	1
Total GRO-DRO	PHC628	83.8	49.8	mg/kg	02.19.20 19.48		1
Total TPH	PHC635	83.8	49.8	mg/kg	02.19.20 19.48		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	02.19.20 19.48	
o-Terphenyl	84-15-1	110	%	70-135	02.19.20 19.48	



Certificate of Analytical Results 653026

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **FS40**
Lab Sample Id: 653026-007

Matrix: Soil
Date Collected: 02.18.20 13.05

Date Received: 02.19.20 16.19
Sample Depth: 8.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3117054

Date Prep: 02.19.20 14.42

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	02.19.20 23.47	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	02.19.20 23.47	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	02.19.20 23.47	U	1
m,p-Xylenes	179601-23-1	0.00915	0.00402	mg/kg	02.19.20 23.47		1
o-Xylene	95-47-6	0.00833	0.00201	mg/kg	02.19.20 23.47		1
Total Xylenes	1330-20-7	0.0175	0.00201	mg/kg	02.19.20 23.47		1
Total BTEX		0.0175	0.00201	mg/kg	02.19.20 23.47		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	02.19.20 23.47		
4-Bromofluorobenzene	460-00-4	98	%	70-130	02.19.20 23.47		



Certificate of Analytical Results 653026

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW30**
Lab Sample Id: 653026-008

Matrix: Soil
Date Collected: 02.18.20 13.10

Date Received: 02.19.20 16.19
Sample Depth: 0 - 8.5 ft

Analytical Method: Chloride by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3117048

Date Prep: 02.19.20 14.46

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	02.19.20 18.52	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3117087

Date Prep: 02.19.20 16.42

Prep Method: SW8015P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	02.19.20 19.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	02.19.20 19.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	02.19.20 19.48	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	02.19.20 19.48	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	02.19.20 19.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	02.19.20 19.48	
o-Terphenyl	84-15-1	99	%	70-135	02.19.20 19.48	



Certificate of Analytical Results 653026

LT Environmental, Inc., Arvada, CO

PLU Big Sinks 2-24-30

Sample Id: **SW30**
Lab Sample Id: 653026-008

Matrix: Soil
Date Collected: 02.18.20 13.10

Date Received: 02.19.20 16.19
Sample Depth: 0 - 8.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: MAB

Analyst: MAB

Seq Number: 3117055

Date Prep: 02.19.20 17.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	02.20.20 04.33	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	02.20.20 04.33	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	02.20.20 04.33	U	1
m,p-Xylenes	179601-23-1	0.00471	0.00403	mg/kg	02.20.20 04.33		1
o-Xylene	95-47-6	0.00338	0.00202	mg/kg	02.20.20 04.33		1
Total Xylenes	1330-20-7	0.00809	0.00202	mg/kg	02.20.20 04.33		1
Total BTEX		0.00809	0.00202	mg/kg	02.20.20 04.33		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	02.20.20 04.33		
4-Bromofluorobenzene	460-00-4	95	%	70-130	02.20.20 04.33		



Flagging Criteria

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

****** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU Big Sinks 2-24-30

Analytical Method: Chloride by EPA 300

Seq Number: 3117048

MB Sample Id: 7697015-1-BLK

Matrix: Solid

LCS Sample Id: 7697015-1-BKS

Prep Method: E300P

Date Prep: 02.19.20

LCSD Sample Id: 7697015-1-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	263	105	262	105	90-110	0	20	mg/kg	02.19.20 15:57	

Analytical Method: Chloride by EPA 300

Seq Number: 3117048

Parent Sample Id: 652989-001

Matrix: Soil

MS Sample Id: 652989-001 S

Prep Method: E300P

Date Prep: 02.19.20

MSD Sample Id: 652989-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	8.40	200	216	104	214	102	90-110	1	20	mg/kg	02.19.20 16:17	

Analytical Method: Chloride by EPA 300

Seq Number: 3117048

Parent Sample Id: 653026-001

Matrix: Soil

MS Sample Id: 653026-001 S

Prep Method: E300P

Date Prep: 02.19.20

MSD Sample Id: 653026-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	12.6	202	227	106	226	106	90-110	0	20	mg/kg	02.19.20 18:02	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3117087

MB Sample Id: 7697026-1-BLK

Matrix: Solid

LCS Sample Id: 7697026-1-BKS

Prep Method: SW8015P

Date Prep: 02.19.20

LCSD Sample Id: 7697026-1-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	1040	104	971	97	70-135	7	35	mg/kg	02.19.20 15:08	
Diesel Range Organics (DRO)	<50.0	1000	1130	113	1100	110	70-135	3	35	mg/kg	02.19.20 15:08	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		131		123		70-135	%	02.19.20 15:08
o-Terphenyl	108		127		120		70-135	%	02.19.20 15:08

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

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

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

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



LT Environmental, Inc.

PLU Big Sinks 2-24-30

Analytical Method: TPH by SW8015 Mod

Seq Number: 3117108

MB Sample Id: 7697082-1-BLK

Matrix: Solid

LCS Sample Id: 7697082-1-BKS

Prep Method: SW8015P

Date Prep: 02.19.20

LCSD Sample Id: 7697082-1-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	858	86	896	90	70-135	4	35	mg/kg	02.19.20 21:48	
Diesel Range Organics (DRO)	<50.0	1000	932	93	1050	105	70-135	12	35	mg/kg	02.19.20 21:48	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		120		114		70-135	%	02.19.20 21:48
o-Terphenyl	103		105		113		70-135	%	02.19.20 21:48

Analytical Method: TPH by SW8015 Mod

Seq Number: 3117087

Matrix: Solid

MB Sample Id: 7697026-1-BLK

Prep Method: SW8015P

Date Prep: 02.19.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.19.20 14:49	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3117108

Matrix: Solid

MB Sample Id: 7697082-1-BLK

Prep Method: SW8015P

Date Prep: 02.19.20

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	02.20.20 10:38	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3117087

Matrix: Soil

Parent Sample Id: 652989-001

MS Sample Id: 652989-001 S

Prep Method: SW8015P

Date Prep: 02.19.20

MSD Sample Id: 652989-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	930	93	960	96	70-135	3	35	mg/kg	02.19.20 15:29	
Diesel Range Organics (DRO)	<50.0	1000	1040	104	1050	105	70-135	1	35	mg/kg	02.19.20 15:29	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		114		70-135	%	02.19.20 15:29
o-Terphenyl	113		118		70-135	%	02.19.20 15:29

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

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

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

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



LT Environmental, Inc.

PLU Big Sinks 2-24-30

Analytical Method: TPH by SW8015 Mod

Seq Number: 3117108

Parent Sample Id: 653026-001

Matrix: Soil

MS Sample Id: 653026-001 S

Prep Method: SW8015P

Date Prep: 02.19.20

MSD Sample Id: 653026-001 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)	<49.8	996	898	90	861	86	70-135	4	35	mg/kg	02.19.20 22:08	
Diesel Range Organics (DRO)	<49.8	996	1030	103	945	95	70-135	9	35	mg/kg	02.19.20 22:08	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		106		70-135	%	02.19.20 22:08
o-Terphenyl	110		107		70-135	%	02.19.20 22:08

Analytical Method: BTEX by EPA 8021B

Seq Number: 3117054

MB Sample Id: 7697014-1-BLK

Matrix: Solid

LCS Sample Id: 7697014-1-BKS

Prep Method: SW5030B

Date Prep: 02.19.20

LCSD Sample Id: 7697014-1-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	0.102	102	0.104	104	70-130	2	35	mg/kg	02.19.20 15:58	
Toluene	<0.00200	0.100	0.0982	98	0.101	101	70-130	3	35	mg/kg	02.19.20 15:58	
Ethylbenzene	<0.00200	0.100	0.0942	94	0.0977	98	71-129	4	35	mg/kg	02.19.20 15:58	
m,p-Xylenes	<0.00400	0.200	0.194	97	0.202	101	70-135	4	35	mg/kg	02.19.20 15:58	
o-Xylene	<0.00200	0.100	0.0968	97	0.101	101	71-133	4	35	mg/kg	02.19.20 15:58	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		104		104		70-130	%	02.19.20 15:58
4-Bromofluorobenzene	95		94		93		70-130	%	02.19.20 15:58

Analytical Method: BTEX by EPA 8021B

Seq Number: 3117055

MB Sample Id: 7697049-1-BLK

Matrix: Solid

LCS Sample Id: 7697049-1-BKS

Prep Method: SW5030B

Date Prep: 02.19.20

LCSD Sample Id: 7697049-1-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	0.103	103	0.104	104	70-130	1	35	mg/kg	02.20.20 02:51	
Toluene	<0.00200	0.100	0.0994	99	0.0995	100	70-130	0	35	mg/kg	02.20.20 02:51	
Ethylbenzene	<0.00200	0.100	0.0951	95	0.0945	95	71-129	1	35	mg/kg	02.20.20 02:51	
m,p-Xylenes	<0.00400	0.200	0.196	98	0.194	97	70-135	1	35	mg/kg	02.20.20 02:51	
o-Xylene	<0.00200	0.100	0.0980	98	0.0976	98	71-133	0	35	mg/kg	02.20.20 02:51	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		104		105		70-130	%	02.20.20 02:51
4-Bromofluorobenzene	95		95		93		70-130	%	02.20.20 02:51

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

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

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

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



LT Environmental, Inc.

PLU Big Sinks 2-24-30

Analytical Method: BTEX by EPA 8021B

Seq Number: 3117054

Parent Sample Id: 652989-001

Matrix: Soil

MS Sample Id: 652989-001 S

Prep Method: SW5030B

Date Prep: 02.19.20

MSD Sample Id: 652989-001 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	0.0910	91	0.103	103	70-130	12	35	mg/kg	02.19.20 16:39	
Toluene	<0.00200	0.100	0.0843	84	0.0959	96	70-130	13	35	mg/kg	02.19.20 16:39	
Ethylbenzene	<0.00200	0.100	0.0796	80	0.0922	92	71-129	15	35	mg/kg	02.19.20 16:39	
m,p-Xylenes	<0.00400	0.200	0.165	83	0.190	95	70-135	14	35	mg/kg	02.19.20 16:39	
o-Xylene	<0.00200	0.100	0.0826	83	0.0950	95	71-133	14	35	mg/kg	02.19.20 16:39	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		104		70-130	%	02.19.20 16:39
4-Bromofluorobenzene	93		92		70-130	%	02.19.20 16:39

Analytical Method: BTEX by EPA 8021B

Seq Number: 3117055

Parent Sample Id: 653026-008

Matrix: Soil

MS Sample Id: 653026-008 S

Prep Method: SW5030B

Date Prep: 02.19.20

MSD Sample Id: 653026-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00202	0.101	0.0981	97	0.0958	95	70-130	2	35	mg/kg	02.20.20 03:32	
Toluene	<0.00202	0.101	0.0954	94	0.0897	89	70-130	6	35	mg/kg	02.20.20 03:32	
Ethylbenzene	<0.00202	0.101	0.0913	90	0.0817	81	71-129	11	35	mg/kg	02.20.20 03:32	
m,p-Xylenes	0.00471	0.202	0.188	91	0.167	80	70-135	12	35	mg/kg	02.20.20 03:32	
o-Xylene	0.00338	0.101	0.0939	90	0.0837	80	71-133	11	35	mg/kg	02.20.20 03:32	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		104		70-130	%	02.20.20 03:32
4-Bromofluorobenzene	95		95		70-130	%	02.20.20 03:32

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

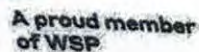
$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = Log(Sample Duplicate) - Log(Original Sample)

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

ATTACHMENT 3: LITHOLOGIC/SOIL SAMPLING LOGS





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

Compliance • Engineering • Remediation

BH or PH Name:

Date: _____

B1401

2-12-20

Site Name: Big Sinks 2-24-70

RP or Incident Number: 2RP-5422

LTE Job Number:

Logged By: JH

Method: Hand Answer

Hole Diameter: 3"

Total Depth:	7'
--------------	----

Lat/Long:

Field Screening:

Chloride, PID

Comments:

LITHOLOGIC / SOIL SAMPLING LOG

TA @ 7'

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M	0.4	0.2	N	BHOI	0.5	0.5	SPML	SPML - Poorly graded Red/Brown Sand. <5% fines No odor, non-cohesive. organics present, minor
M	0.4	0.2	N	BHOIA	1.0	1	SPML	- Poorly graded Red/Brown Sand <5% fines No odor, non-cohesive. organics present, minor
M	0.4	0.2	N	BHOIB	2.0	2	SPML	- Poorly graded Red/Brown Sand <5% fines No odor, non-cohesive. organics present, minor
M	0.4	0.4	N	BHOIC	3.0	3	SPML	- Poorly graded Red/Brown Sand <5% fines No odor, some cohesiveness. organics present, minor
M	0.4	0.7	N	BHOID	4.0	4	SPSM ML	- Poorly graded Red/Brown Sand <10% fines (3/16) No odor, some cohesiveness. organics present, Trace calcite
D	0.6	0.5	N	BHOIE	5.0	5	SPSM ML	- Well graded Brown/tan sand <10% fines (3/16) No odor, some cohesiveness. organics present, some calcite
D	0.4	0.3	N	BHOIF	6.0	6	SWSM ML	Well graded Brown/tan sand, <10% fines (3/16/4) No odor, calcite cohesive. calcite present
D	0.4	0.2	N	BHOIG	7.0	7	SWSM ML	Well graded Brown/tan sand <10% fines (3/16/4) No odor, cohesion calcite present
				BHOIH		8		
				BHOI		9		
				BHOI		10		
				BHOI		11		
				BHOI		12		



Compliance • Engineering • Remediation

BH02

8/12/20

RP or Incident Number: 2RP-5482

LTE Job Number:

Logged By: JH

Method: Hand Anager

Hole Diameter:	3"
----------------	----

Total Depth:	4'
--------------	----

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

Field Screening:
Chloride, PID

Comments:

To e 4'

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M 0.4 2173.6	0.2	N	BHO2	BHO2 0.5	0	SP ML	poorly graded red/brown sand <5% fines No odor, non-cohesive organic present	
M 0.4 2173.6	0.4	N	BHO2A	1.6	1	SP ML	poorly graded red/brown sand <5% fines No odor non-cohesive. org. present	
M 0.4 2173.6	0.3	N	BHO2B	2.0	2	SP ML	poorly graded red/brown sand <5% fines No odor non-cohesive. org. present	
M 0.8 2173.6	0.1	N	BHO2C BHO2C	3.0	3	SDSM ML	poorly graded red brown sand <15% fines (silt) No odor, some cohesiveness, org. present	
D 0.8 2173.6	0.3	N	BHO2D *BHO2B on lab report	4.0	4	SDSM ML	well graded brown/fin sand <10% fines (silt/clay) no odor. cohesive. calcite present	
					5		Top 4'	
					6			
					7			
					8			
					9			
					10			
					11			
					12			

700 41