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	nRM1932350962
District RP	2RP-5704
Facility ID	
Application ID	

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

Location of Release Source

(NAD 83 in decimal degrees to 5 decimal places)

Longitude

<u>-103.829938</u>

Latitude <u>32.188695</u>

Site Name PLU 89	Site Type Pipeline Riser
Date Release Discovered 10/08/2019	API# (if applicable) 30-015-27787 PLU 89

Unit Letter	Section	Township	Range	County
G	25	248	30E	EDDY

Surface Owner: State Federal Tribal Private (Name:

Nature and Volume of Release

Materia	(s) Released (Select all that apply and attach calculations or specific	justification for the volumes provided below)
Crude Oil	Volume Released (bbls) 7.04	Volume Recovered (bbls) 6.60
Produced Water	Volume Released (bbls) 1401.2	Volume Recovered (bbls) 1313.4
	Is the concentration of dissolved chloride 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: Whil resources have been retain	e excavating for future manifold replacement, an 8" SV ned to assist in the remediation.	VD transfer line was hit. Additional third party
		5

Incident ID	nRM1932350962
District RP	2RP-5704
Facility ID	
Application ID	

Was this a major	If YES, for what reason(s) does the responsible party consider this a major release?	
release as defined by		
19.15.29.7(A) NMAC?	An unauthorized release of fluid over 25 barrels.	
Yes 🗌 No		
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?		
YES, by Adrian Baker: to 'Mike Bratcher'; 'Venegas, Victoria, EMNRD'; 'Rob Hamlet'; 'Jim.Griswold@state.nm.us';		
'blm_nm_cfo_spill@blm.gov' on 10/9/19 at 8:49am.		

Initial Response

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

 \boxtimes The source of the release has been stopped.

The impacted area has been secured to protect human health and the environment.

Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

All free liquids and recoverable materials have been removed and managed appropriately.

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

N/A

Page 2

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

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

Printed Name: Kyle Littrell	Title: <u>SH&E Supervisor</u>
Signature: Contract	Date:10/22/2019
email:	Telephone:
OCD Only	
Received by:	Date:

Form C-141 Page 3

State of New Mexico **Oil Conservation Division**

Incident ID	nRM1932350962
District RP	2RP-5704
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>>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
- \boxtimes Data table of soil contaminant concentration data
- \square Depth to water determination
- Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- \boxtimes Boring or excavation logs
- \square Photographs including date and GIS information
- \boxtimes 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.

<i>civel by</i> oc <i>D</i> . 1777202	20 2:56:49 PM			Page 4 of
Form C-141 Page 4	State of New Mext Oil Conservation Div	ico vision	Incident ID District RP Facility ID	nRM1932350962 2RP-5704
I hereby certify that the regulations all operators public health or the envi failed to adequately invo addition, OCD acceptan and/or regulations. Printed Name: Signature:	information given above is true and comple are required to report and/or file certain rel- ronment. The acceptance of a C-141 report estigate and remediate contamination that po ce of a C-141 report does not relieve the ope 	te to the best of my knowledg ease notifications and perform by the OCD does not relieve ose a threat to groundwater, su erator of responsibility for con Title: <u>SH&</u> Date: <u>01/06/</u>	re and understand that pursus n corrective actions for rele the operator of liability sho inface water, human health mpliance with any other feo <u>E Supervisor</u>	uant to OCD rules and asses which may endanger ould their operations have or the environment. In deral, state, or local laws
email: <u>Kyle_l</u>	Littrell@xtoenergy.com	Telephone:	(432)-221-7331	

Form C-141 Page 5

State of New Mexico Oil Conservation Division

Incident ID	nRM1932350962
District RP	2RP-5704
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: Each of the following items must be included in the plan. Detailed description of proposed remediation technique Scaled sitemap with GPS coordinates showing delineation points Estimated volume of material to be remediated Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required) Deferral Requests Only: Each of the following items must be confirmed as part of any request for deferral of remediation. Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction. X Extents of contamination must be fully delineated. I 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 gro undwater, 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 Coordinator_	
Signature: email:Kyle_I		Teler	Date:0	1/06/2020
OCD Only		1		
Received by:		Date:		
Approved	Approved with Attached Conditions of A	Approval	Denied	Deferral Approved
Signature:		Date:		-



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



January 6, 2020

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

RE: Closure Request Poker Lake Unit 89 Remediation Permit Number 2RP-5704 Incident Number nRM1932350962 Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request detailing soil sampling and excavation activities at the Poker Lake Unit 89 (Site) in Unit G, Section 25, Township 24 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the soil sampling and excavation activities was to address impacts to soil after a crude oil and produced water release at the Site.

On October 8, 2019, an eight-inch transfer line was struck while excavating for equipment upgrades, causing a crude oil and produced water release in the excavation area and along the pipeline right of way (ROW). Approximately 7.04 barrels (bbls) of crude oil and 1,401.2 bbls of produced water were released from the eight-inch transfer line. A vacuum truck was used to recover approximately 6.6 bbls of crude oil and approximately 1,313.4 bbls of produced water. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on October 22, 2019 and was assigned Remediation Permit (RP) Number 2RP-5704 and Incident Number (IN) of nRM1932350962. Based on the excavation activities and results from the soil confirmation and delineation sampling activities conducted to date, XTO is submitting this Closure Request and asking for no further action (NFA) for RP Number 2RP-5704.

BACKGROUND

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 depth to groundwater data from the nearest groundwater well. The nearest permitted groundwater well with depth to groundwater data is New Mexico Office of State Engineers (NMOSE) well C 02110 located approximately 1.55 miles northwest of the Site. Although, NMOSE wells C 03558 are closer to the Site, these wells were not used because depth



to groundwater data was not available. The groundwater well has a depth to groundwater of 400 feet bgs. The total depth of the groundwater well is 600 feet bgs. Ground surface elevation at the groundwater well location is 3,412 feet, which is 29 feet lower in elevation than the Site. The closest continuously flowing water or significant watercourse to the Site is a freshwater emergent wetland located approximately 7,288 feet northwest of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, or church. The nearest wetland is greater than 300 feet from the Site. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is located in a low potential karst area. The Site Receptors are depicted on Figure 1.

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

PRELIMINARY SOIL SAMPLING

On October 14, 2019, LTE conducted reconnaissance of the Site to evaluate the release extent and collect preliminary soil samples. Surface hydrocarbon staining was observed in the release area and along the northeast to southwest trending pipeline ROW. The release extent was mapped using a handheld Global Positing System (GPS) unit and is depicted on Figure 2. LTE personnel collected preliminary soil samples SS01 through SS07 within the release at a depth of approximately 0.5 feet bgs to assess the lateral extent of soil impacts. The discrete samples were collected using hand-auger equipment. The soil samples were screened for volatile aromatic hydrocarbons and chlorides using a photo-ionization detector (PID) and Hach[®] chloride QuanTab[®] test strips. The soil samples were placed directly into pre-cleaned glass jars, labeled with location, date, time, sampler, and method of analysis, and immediately placed on ice. The samples were shipped to Xenco Laboratories (Xenco) in Carlsbad, New Mexico, at 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures for analysis of BTEX by United States Environmental Protection Agency (EPA) Method 8021B, TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) by EPA Method 8015M/D, and chloride by EPA Method 300.0. The preliminary



soil sample locations are presented on Figure 2. A photographic log of the Site is included as Attachment 1.

Laboratory analytical results indicated that total BTEX, TPH-GRO, TPH-DRO, TPH, and/or chloride concentrations exceeded the Closure Criteria in preliminary soil samples SSO6 and SSO7. Preliminary soil samples SSO6 and SSO7 were collected immediately adjacent to the release point. The remaining preliminary soil sample concentrations were below the Closure Criteria. Based on the laboratory analytical results, borehole sampling was scheduled to delineate the lateral and vertical extent of impacted soil and direct excavation activities. Laboratory analytical results are presented on Figure 2 and summarized in Table 1, and the laboratory analytical report is included in Attachment 3.

EXCAVATION ACTIVITIES

Hydro-excavation activities were conducted between November 21 and December 11, 2019 to remove impacted soil identified through soil sampling. Hydro-excavation was conducted in the area adjacent to the release point, above the pipeline, and parallel to both sides of the pipeline. Hydro-excavation activities were conducted to the largest extent feasible.

To direct all excavation activities, LTE screened soil samples using a PID and Hach[®] chloride QuanTab[®] test strips. Following removal of impacted soil, LTE collected 5-point composite soil samples every 200 square feet from the sidewalls (SW01 through SW05) and floor (FS01 through FS05) of the excavation. The 5-point composite samples were collected by depositing 5 aliquots of soil into a 1-gallon, resealable plastic bag, and homogenizing the samples by thoroughly mixing. The excavation soil samples were collected, handled, and analyzed as described above and submitted to Xenco in Carlsbad, New Mexico. The excavation confirmation soil sample locations are presented on Figure 3.

The excavations measured a total of approximately 1,500 square feet in area. A total of approximately 222 cubic yards of soil were removed from the excavations. Impacted soil was transported and properly disposed of at the R360 Landfill Facility located in Carlsbad, New Mexico.

DELINEATION ACTIVITIES

Between November 21 and December 2, 2019, LTE conducted borehole sampling activities to further confirm the absence of impacted soil in the subsurface in the remaining portions of the release footprint. Boreholes BH04, BH03, BH05, BH06, and BH07 were advanced within the release area via hand-auger to a depth of approximately two feet bgs. These boreholes were advanced at preliminary soil sample locations SS01 through SS05, respectively to account for two samples at each delineation borehole. Soil from the boreholes was field screened using a PID and Hach[®] chloride QuanTab[®] test strips. The delineation soil samples were collected, handled, and



analyzed as described above and submitted to Xenco in Carlsbad, New Mexico. The delineation soil sample locations and depths are depicted on Figure 4 and lithologic/soil sampling logs are included in Attachment 2.

ANALYTICAL RESULTS

Discrete preliminary soil samples SS01 through SS07 were collected from within the release extent. Laboratory analytical results indicated that total BTEX, TPH-GRO, TPH-DRO, TPH, and/or chloride concentrations exceeded the Closure Criteria in preliminary soil samples SS06 and SS07, which were collected at the release point. Laboratory analytical results of the remaining preliminary soil samples indicated compliance with Closure Criteria.

Excavation confirmation samples were collected following removal of soil from near preliminary soil samples SS06 and SS07. Laboratory analytical results from excavation confirmation samples indicated that sidewall (SW01 through SW05) and floor (FS01 through FS05) confirmation soil samples were below Closure Criteria.

Delineation samples collected from the subsurface beneath the previously collected preliminary samples to investigate the subsurface of the release footprint that had not been excavated indicated that all delineation soil samples were below Closure Criteria. Laboratory analytical results are presented on Figures 3 and 4 and summarized in Table 1, and the laboratory analytical reports are included in Attachment 3.

CONCLUSIONS

Approximately 7.04 barrels (bbls) of crude oil and 1,401.2 bbls of produced water was released from an October 8, 2019 transfer line strike; however, approximately 6.6 bbls of crude oil and approximately 1,313.4 bbls of produced water were recovered and returned to the system. Soil located above the pipeline was excavated prior to the October 8, 2019 line strike.

Initial assessment samples SS06 and SS07 exceeded Closure Criteria and approximately 222 cubic yards of soil were hydro excavated. Laboratory analytical results for floor (FS01 through FS05) and sidewall (SW01 through SW05) confirmation soil samples indicated benzene, BTEX, GRO and DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Final delineation soil samples SS01/BH07, SS02/BH06, SS03/BH03, SS04/BH05, and SS05/BH04 were collected from within the release extent and did not exceed Closure Criteria.

Based on the excavation activities and results from the soil confirmation and delineation sampling activities conducted, XTO is submitting this Closure Request and asking for NFA for RP Number 2RP-5704 for this October 8, 2019 release. XTO further request permission to backfill the excavation. The excavation is located within the pipeline ROW and will be restored to surface conditions prior to the release.



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

Sincerely, LT ENVIRONMENTAL, INC.

Keri M. age

Kevin M. Axe, P.G. Senior Geologist

Ashley L. ager

Ashley L. Ager, P.G. Senior Geologist

cc: Mr. Kyle Littrell, XTO Mr. Robert Hamlet, NMOCD Ms. Victoria Venegas, NMOCD Bureau of Land Management

Appendices:

- Figure 1 Site Location Map
- Figure 2 Preliminary Soil Sample Locations
- Figure 3 Excavation Soil Sample Locations
- Figure 4 Delineation Soil Sample Locations
- Figure 5 Soil Sample Locations
- Table 1 Soil Analytical Results
- Attachment 1 Photographic Log
- Attachment 2 Lithologic/Soil Sampling Logs

Attachment 3 Laboratory Analytical Reports



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FIGURES





P:\XTO Energy\GIS\MXD\012919246_PLU 89 SWD LINE\012919246_FIG01_SL_5704_1.mxd



P:\XTO Energy\GIS\MXD\012919246_PLU 89 SWD LINE\012919246_FIG02_PRELIMINARY_2019.mx







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TABLES



TABLE 1 SOIL ANALYTICAL RESULTS

POKER LAKE UNIT 89 REMEDIATION PERMIT NUMBER 2RP-5704 EDDY COUNTY, NEW MEXICO XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD	Table 1 Closure	Criteria	10	NE	NE	NE	50	NE	NE	NE	1,000	2,500	20,000
SS01	0.5	10/14/2019	<0.000988	<0.000988	<0.000988	<0.000988	<0.000988	<50.3	<50.3	<50.3	<50.3	<50.3	<9.88
SS02	0.5	10/14/2019	<0.000994	<0.000994	<0.000994	<0.000994	<0.000994	<50.2	<50.2	<50.2	<50.2	<50.2	22.0
SS03	0.5	10/14/2019	<0.000992	<0.000992	<0.000992	<0.000992	<0.000992	<50.2	<50.2	<50.2	<50.2	<50.2	19.6
SS04	0.5	10/14/2019	<0.000992	<0.000992	<0.000992	<0.000992	<0.000992	<50.0	<50.0	<50.0	<50.0	<50.0	13,800
SS05	0.5	10/14/2019	<0.000988	0.00265	0.00108	0.00429	0.00802	<50.2	<50.2	<50.2	<50.2	<50.2	16,200
SS06	0.5	10/14/2019	0.290	17.5	17.4	88.2	123	427	1,410	102	1,840	1,940	25,100
SS07	0.5	10/14/2019	0.561	14.8	7.28	50.3	72.9	1,530	8,930	794	10,500	11,300	15,800
BH03	2	11/21/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.2	<50.2	<50.2	<50.2	<50.2	<10.1
BH04	2	11/21/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	3,600
BH05	2	11/21/2019	<0.00197	<0.00197	<0.00197	<0.00197	<0.00197	<49.9	<49.9	<49.9	<49.9	<49.9	15.9
BH06	2	11/21/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	<50.2	<9.98
BH07	2	11/21/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	<9.92
SW01	0 - 4	12/10/2019	<0.00202	<0.00202	<0.00202	0.0104	0.0104	<50.1	<50.1	<50.1	<50.1	<50.1	4,940
SW02	0 - 4	12/10/2019	<0.00200	<0.00200	<0.00200	0.00727	0.00727	<49.8	<49.8	<49.8	<49.8	<49.8	4,700
SW03	0 - 4	12/11/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	3,140
SW04	0 - 4	12/11/2019	<0.00200	0.004	0.00224	0.0143	0.0205	<50.1	<50.1	<50.1	<50.1	<50.1	6,180
SW05	0 - 4	12/11/2019	<0.00196	<0.00196	<0.00196	<0.00196	<0.00196	<50.3	<50.3	<50.3	<50.3	<50.3	6,180
FS01	4	12/10/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	9,000
FS02	4	12/10/2019	<0.00200	<0.00200	<0.00200	0.00853	0.00853	<50.2	<50.2	<50.2	<50.2	<50.2	9,390
FS03	4	12/10/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	7,090
FS04	4	12/11/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	<50.2	2,630
FS05	4	12/11/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	4,300

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



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ATTACHMENT 1: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG



Photograph 1: East facing view of release point.



Photograph 2: East facing view of excavation surrounding release point.



Photograph 3: North facing view of excavation surrounding release point.

Poker Lake Unit 89 Eddy County, New Mexico Photographs Taken: October 14, 2019 – December 11, 2019



Photograph 4: Northwest facing view of final excavation.



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	Lat Long		LITHO	LUGIC	. / 5011	Field Scree	ning:	<u> </u>		Logged By: 011. Hole Diameter:	L	Method: Total Depth:			
	Commen	15													
	Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (fl. bgs.)	Sample Depth	Soil/Rock Type		Lithology/Remarks					
						1	-								
620	0	7112	0.0	Ν		2	284	s	sund,	trace silt	, brown				
						3	-								
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	LI Environment Z5 Lat/Long: Comment	LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation LITHOLOGIC / SOIL SAMPLING LOG Lat/Long: Field Screening:								Identifier: BH04 Project Name: FLU B9 SWA Logged By: El[:cc Hole Diameter:	2	Date: 1/2//19 RP Number: No + assigned Method: Total Depth:
	Moisture Content	Moisture Content Moisture (ppm) Content Content Content Chloride Image: Solid Rock Staining Image: Solid Rock Image: Solid Rock Image: Solid Rock								Lit	hology/Ren	narks
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						3	-					
						10 	-					
						14	-					
						16 	•					

	LT Environme	patal, inc.		L 5(Carl Compli	T Envir 08 West sbad, N ance · E	onmenta Stevens ew Mexic ngineering	I, Inc. Street o 88220 ∙ Remedi		Identifier: BH05 Project Name: PLV 99	swD	Date: U/U/19 RP Number: NU f assigned	
	Lat/Long:]	LITHO	LOGIC	/ SOII	SAMPI)G		Logged By: []	l	Method:
	Comment	5:								Hole Diameter:		Total Depth:
	Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type			Lithology/Rem	arks
ν	۵	>112	0.1	Ν			28+	S	san d	,trace si	lt, brown	
						8 	- - - -					
						12 -	-					
						16						
						18						
						12						

	U Environmen 25	ntal, inc.	LITHO	L 50 Carl Compli	T Enviro 08 West sbad, No ance · Er / SOIL	onmenta Stevens ew Mexic ngineering	I, Inc. Street o 88220 Remedi JING LC		Identifier: BUU Project Nar PLV 80 Logged By:	в 6 ^{те:} 9 <i>swD</i> : ЕШи		Date: il / 21/19 RP Number: Mot assigned Method:	
	Lat/Long:					Field Screen	ning:			Hole Diame	eter:		Total Depth:
	Comment	s:											
	Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type			Litholog	gy/Rema	arks
5	9	2112	0,1	N		1	281	S	sund,	fran	caliche	, bru	wh to tan
						3 -	- - - - - -						
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						16	-						
						12	-						

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	Lat/Long:	Printal, Inc.	LITHO	L 50 Carl Compli LOGIC	T Envir)8 West sbad, N ance · Er / SOII	onmenta Stevens ew Mexic ngineering SAMPL Field Screet	I, Inc. Street o 88220 · Remedia JING LC	ation DG		Identifier: BHb7 Project Name: PLV 99 Logged By: EI Hole Diameter:	SWP lie	Date: N/21/19 RP Number: No L no Signed Method: Total Depth:
	Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type			Lithology/Rem	arks
1615	ø	7112	0.0	N		$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	28+	5	sandi	trace sil	t, brown	

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Analytical Report 639886

for LT Environmental, Inc.

Project Manager: Dan Moir

PLU 89 SWD Line

012919246

15-OCT-19

Collected By: Client



1089 N Canal Street Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122): Texas (T104704215-19-30), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054) Oklahoma (2017-142), North Carolina (681)

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

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



15-OCT-19

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

Reference: XENCO Report No(s): 639886 PLU 89 SWD Line Project Address: Eddy County

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 639886. 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. 639886 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,

fession kenner

 Jessica Kramer

 Project Assistant

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Sample Cross Reference 639886

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Line

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	10-14-19 10:50	0.5 ft	639886-001
SS02	S	10-14-19 10:52	0.5 ft	639886-002
SS03	S	10-14-19 10:53	0.5 ft	639886-003
SS04	S	10-14-19 10:54	0.5 ft	639886-004
SS05	S	10-14-19 10:56	0.5 ft	639886-005
SS06	S	10-14-19 10:57	0.5 ft	639886-006
SS07	S	10-14-19 10:59	0.5 ft	639886-007

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CASE NARRATIVE

Client Name: LT Environmental, Inc. Project Name: PLU 89 SWD Line

 Project ID:
 012919246

 Work Order Number(s):
 639886

 Report Date:
 15-OCT-19

 Date Received:
 10/14/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments: Batch: LBA-3104315 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: 639886-007,639886-006.

Batch: LBA-3104322 TPH by SW8015 Mod Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis. Samples affected are: 639886-007.



Project Id:012919246Contact:Dan MoirProject Location:Eddy County

Certificate of Analysis Summary 639886

LT Environmental, Inc., Arvada, CO Project Name: PLU 89 SWD Line

Date Received in Lab:Mon Oct-14-19 01:56 pmReport Date:15-OCT-19Project Manager:Jessica Kramer

	Lab Id:	639886-0	01	639886-0	02	639886-0	003	639886-0	04	639886-	005	639886-	006
Analysis Requested	Field Id:	SS01		SS02		SS03		SS04		SS05		SS06	i
Analysis Requested	Depth:	0.5- ft		0.5- ft		0.5- ft		0.5- ft		0.5- f	t	0.5- f	t
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Oct-14-19 1	0:50	Oct-14-19 1	0:52	Oct-14-19 1	10:53	Oct-14-19 1	0:54	Oct-14-19	10:56	Oct-14-19	10:57
BTEX by EPA 8021B	Extracted:	Oct-14-19 1	6:10	Oct-14-19	16:10	Oct-14-19	16:10						
	Analyzed:	Oct-14-19 2	0:10	Oct-14-19 2	20:29	Oct-14-19 2	20:48	Oct-14-19 2	21:07	Oct-14-19	21:26	Oct-14-19	21:45
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.000988 (0.000988	< 0.000994	0.000994	<0.000992	0.000992	< 0.000992	0.000992	< 0.000988	0.000988	0.290	0.00495
Toluene		<0.000988 (0.000988	< 0.000994	0.000994	<0.000992	0.000992	< 0.000992	0.000992	0.00265	0.000988	17.5 D	0.990
Ethylbenzene		<0.000988 (0.000988	< 0.000994	0.000994	<0.000992	0.000992	< 0.000992	0.000992	0.00108	0.000988	17.4 D	0.990
m,p-Xylenes		< 0.00198	0.00198	< 0.00199	0.00199	< 0.00198	0.00198	< 0.00198	0.00198	0.00291	0.00198	61.5 D	1.98
o-Xylene		<0.000988 (0.000988	< 0.000994	0.000994	<0.000992	0.000992	< 0.000992	0.000992	0.00138	0.000988	26.7 D	0.990
Total Xylenes		<0.000988 (0.000988	< 0.000994	0.000994	<0.000992	0.000992	< 0.000992	0.000992	0.00429	0.000988	88.2	0.990
Total BTEX		<0.000988 (0.000988	< 0.000994	0.000994	<0.000992	0.000992	< 0.000992	0.000992	0.00802	0.000988	123	0.00495
Chloride by EPA 300	Extracted:	Oct-14-19 1	8:10	Oct-14-19	18:10	Oct-14-19	18:10						
	Analyzed:	Oct-14-19 1	9:59	Oct-14-19 2	20:05	Oct-14-19 2	20:12	Oct-14-19 2	20:18	Oct-14-19	20:24	Oct-14-19	20:31
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		<9.88	9.88	22.0	9.98	19.6	9.90	13800	499	16200	497	25100	992
TPH by SW8015 Mod	Extracted:	** ** ** *	**	** ** ** :	**	** ** ** :	**	** ** ** :	**	** ** **	**	** ** **	**
	Analyzed:	Oct-14-19 2	3:10	Oct-14-19 2	23:29	Oct-14-19 2	23:49	Oct-15-19 (0:09	Oct-15-19	00:29	Oct-15-19	01:28
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.3	50.3	<50.2	50.2	<50.2	50.2	<50.0	50.0	< 50.2	50.2	427	50.2
Diesel Range Organics (DRO)		<50.3	50.3	<50.2	50.2	<50.2	50.2	<50.0	50.0	<50.2	50.2	1410	50.2
Motor Oil Range Hydrocarbons (MRO)		<50.3	50.3	<50.2	50.2	<50.2	50.2	<50.0	50.0	<50.2	50.2	102	50.2
Total GRO-DRO		<50.3	50.3	<50.2	50.2	<50.2	50.2	<50.0	50.0	<50.2	50.2	1840	50.2
Total TPH		<50.3	50.3	<50.2	50.2	<50.2	50.2	<50.0	50.0	<50.2	50.2	1940	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.

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Version: 1.%

fession kenner

Jessica Kramer Project Assistant

Final 1.000



Project Id:012919246Contact:Dan MoirProject Location:Eddy County

Certificate of Analysis Summary 639886

LT Environmental, Inc., Arvada, CO Project Name: PLU 89 SWD Line

Date Received in Lab:Mon Oct-14-19 01:56 pmReport Date:15-OCT-19Project Manager:Jessica Kramer

	Lab Id:	639886-00	07				
Anglusis Paguastad	Field Id:	SS07					
Analysis Kequesiea	Depth:	0.5- ft					
	Matrix:	SOIL					
	Sampled:	Oct-14-19 1	0:59				
BTEX by EPA 8021B	Extracted:	Oct-14-19 1	6:10	1	1	1	
	Analyzed:	Oct-14-19 2	2:05				
	Units/RL:	mg/kg	RL				
Benzene		0.561	0.0198				
Toluene		14.8 D	0.198				
Ethylbenzene		7.28	0.0198				
m,p-Xylenes		35.0 D	0.395				
o-Xylene		15.3 D	0.198				
Total Xylenes		50.3	0.198				
Total BTEX		72.9	0.0198				
Chloride by EPA 300	Extracted:	Oct-14-19 1	8:10				
	Analyzed:	Oct-14-19 2	0:37				
	Units/RL:	mg/kg	RL				
Chloride		15800	496				
TPH by SW8015 Mod	Extracted:	** ** ** *	*				
	Analyzed:	Oct-15-19 0	0:49				
	Units/RL:	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		1530	251				
Diesel Range Organics (DRO)		8930	251				
Motor Oil Range Hydrocarbons (MRO)		794	251				
Total GRO-DRO		10500	251				
Total TPH		11300	251				

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

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fession Vermer

Jessica Kramer Project Assistant

1-Chlorooctane

o-Terphenyl



Certificate of Analytical Results 639886

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Line

Sample Id:	SS01		Matrix:	Soil			Date Received:10	14.19 13.5	6
Lab Sample Id	d: 639886-001		Date Coll	ected: 10.14.19	9 10.50		Sample Depth: 0.5	ft	
Analytical Me	ethod: Chloride by EP	A 300					Prep Method: E3	00P	
Tech:	MAB						% Moisture:		
Analyst:	MAB		Date Pren): 10.14.19	9 18.10		Basis: We	et Weight	
Seq Number:	3104255		F					U	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	<9.88	9.88		mg/kg	10.14.19 19.59	U	1
Analytical Me Tech: Analyst: Seq Number:	ethod: TPH by SW802 DTH DTH 3104322	15 Mod	Date Prep	p: 10.14.19	9 12.10		Prep Method: SW % Moisture: Basis: We	/8015P et Weight	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range	Hydrocarbons (GRO)	PHC610	<50.3	50.3		mg/kg	10.14.19 23.10	U	1
Diesel Range Or	ganics (DRO)	C10C28DRO	<50.3	50.3		mg/kg	10.14.19 23.10	U	1
Motor Oil Range H	Iydrocarbons (MRO)	PHCG2835	<50.3	50.3		mg/kg	10.14.19 23.10	U	1
Total GRO-DRC)	PHC628	<50.3	50.3		mg/kg	10.14.19 23.10	U	1
Total TPH		PHC635	<50.3	50.3		mg/kg	10.14.19 23.10	U	1
Surrogate			Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	

90

83

%

%

70-135

70-135

10.14.19 23.10

10.14.19 23.10

Page 7 of 25

111-85-3

84-15-1

CO

Certificate of Analytical Results 639886

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Line

Sample Id:SS01Lab Sample Id:639886-001		Matrix: Date Collected	Soil : 10.14.19 10.50	Date Received Sample Depth	l:10.14.19 13.56 : 0.5 ft
Analytical Method:BTEXTech:MABAnalyst:MABSeq Number:3104315	oy EPA 8021B	Date Prep:	10.14.19 16.10	Prep Method: % Moisture: Basis:	SW5030B Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.000988	0.000988		mg/kg	10.14.19 20.10	U	1
Toluene	108-88-3	< 0.000988	0.000988		mg/kg	10.14.19 20.10	U	1
Ethylbenzene	100-41-4	< 0.000988	0.000988		mg/kg	10.14.19 20.10	U	1
m,p-Xylenes	179601-23-1	< 0.00198	0.00198		mg/kg	10.14.19 20.10	U	1
o-Xylene	95-47-6	< 0.000988	0.000988		mg/kg	10.14.19 20.10	U	1
Total Xylenes	1330-20-7	< 0.000988	0.000988		mg/kg	10.14.19 20.10	U	1
Total BTEX		< 0.000988	0.000988		mg/kg	10.14.19 20.10	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	113	%	70-130	10.14.19 20.10		
1,4-Difluorobenzene		540-36-3	104	%	70-130	10.14.19 20.10		

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1-Chlorooctane

o-Terphenyl



Certificate of Analytical Results 639886

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Line

Sample Id:SS02Lab Sample Id:639886-002			Matrix: Soil Date Collected: 10.14.19 10.52			Date Received:10.14.19 13.56 Sample Depth: 0.5 ft				
Tech:	MAB					Ģ	% Moisture:			
Analyst:	MAB		Date Pre	o: 10.14.19	18.10]	Basis: We	t Weight		
Seq Number:	3104255							Ū		
Parameter		Cas Number	Result	RL	Uı	nits	Analysis Date	Flag	Dil	
Chloride		16887-00-6	22.0	9.98	mg	g/kg	10.14.19 20.05		1	
Analytical Method:TPH by SW8015 ModTech:DTHAnalyst:DTHSeq Number:3104322		Date Prep: 10.14.19 12.10		12.10	Prep Method: SW8015P % Moisture: Basis: Wet Weight					
Parameter		Cas Number	Result	RL	Uı	nits	Analysis Date	Flag	Dil	
Gasoline Range	Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg	g/kg	10.14.19 23.29	U	1	
Diesel Range Or	ganics (DRO)	C10C28DRO	<50.2	50.2	mg	g/kg	10.14.19 23.29	U	1	
Motor Oil Range H	lydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg	g/kg	10.14.19 23.29	U	1	
Total GRO-DRC)	PHC628	< 50.2	50.2	mg	g/kg	10.14.19 23.29	U	1	
Total TPH		PHC635	< 50.2	50.2	mg	g/kg	10.14.19 23.29	U	1	
Surrogate			Cas Number	% Recovery U	U nits L i	imits	Analysis Date	Flag		

81

76

%

%

70-135

70-135

10.14.19 23.29

10.14.19 23.29

111-85-3

84-15-1
Certificate of Analytical Results 639886

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Line

Sample Id: Lab Sample Id	SS02 : 639886-002	Matrix: Date Collected	Soil : 10.14.19 10.52	Date Received Sample Depth	l:10.14.19 13.56 : 0.5 ft
Analytical Me Tech:	thod: BTEX by EPA 8021B MAB			Prep Method: % Moisture:	SW5030B
Analyst:	MAB	Date Prep:	10.14.19 16.10	Basis:	Wet Weight
Seq Number:	3104315				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.000994	0.000994		mg/kg	10.14.19 20.29	U	1
Toluene	108-88-3	< 0.000994	0.000994		mg/kg	10.14.19 20.29	U	1
Ethylbenzene	100-41-4	< 0.000994	0.000994		mg/kg	10.14.19 20.29	U	1
m,p-Xylenes	179601-23-1	< 0.00199	0.00199		mg/kg	10.14.19 20.29	U	1
o-Xylene	95-47-6	< 0.000994	0.000994		mg/kg	10.14.19 20.29	U	1
Total Xylenes	1330-20-7	< 0.000994	0.000994		mg/kg	10.14.19 20.29	U	1
Total BTEX		< 0.000994	0.000994		mg/kg	10.14.19 20.29	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	106	%	70-130	10.14.19 20.29		
4-Bromofluorobenzene		460-00-4	112	%	70-130	10.14.19 20.29		



Certificate of Analytical Results 639886

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Line

Sample Id:	SS03		Matrix:	Soil			Date Received:10.1	4.19 13.5	6
Lab Sample Id	: 639886-003		Date Colle	ected: 10.14	.19 10.53		Sample Depth: 0.5	ft	
Analytical Met	thod: Chloride by EP	A 300					Prep Method: E30	0P	
Tech:	MAB						% Moisture:		
Analyst:	MAB		Date Prep	: 10.14	.19 18.10		Basis: Wet	Weight	
Seq Number:	3104255		-						
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	19.6	9.90		mg/kg	10.14.19 20.12		1
Analytical Met Tech: Analyst: Seq Number:	thod: TPH by SW80 DTH DTH 3104322	15 Mod	Date Prep	: 10.14	.19 12.10		Prep Method: SW % Moisture: Basis: Wet	8015P Weight	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range H	Hydrocarbons (GRO)	PHC610	<50.2	50.2		mg/kg	10.14.19 23.49	U	1
Diesel Range Org	ganics (DRO)	C10C28DRO	<50.2	50.2		mg/kg	10.14.19 23.49	U	1
Motor Oil Range Hy	ydrocarbons (MRO)	PHCG2835	<50.2	50.2		mg/kg	10.14.19 23.49	U	1
Total GRO-DRO		PHC628	<50.2	50.2		mg/kg	10.14.19 23.49	U	1
Total TPH		PHC635	<50.2	50.2		mg/kg	10.14.19 23.49	U	1
Surrogate			Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooct	tane		111-85-3	94	%	70-135	10.14.19 23.49		
o-Terpheny	1		84-15-1	93	%	70-135	10.14.19 23.49		

Certificate of Analytical Results 639886

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Line

Sample Id:	SS03		Matrix:	Soil	Date Receive	d:10.14.19 13.56	
Lab Sample Id	l: 639886-003		Date Collected	1: 10.14.19 10.53	Sample Deptl	n: 0.5 ft	
Analytical Me	thod: BTEX by EPA 802	1B			Prep Method:	SW5030B	
Tech:	MAB				% Moisture:		
Analyst:	MAB		Date Prep:	10.14.19 16.10	Basis:	Wet Weight	
Seq Number:	3104315						
Parameter		Cas Number	Result B	T T	nite Analysis F	eto Flog	Б

Parameter	Cas Number	r Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.000992	0.000992		mg/kg	10.14.19 20.48	U	1
Toluene	108-88-3	< 0.000992	0.000992		mg/kg	10.14.19 20.48	U	1
Ethylbenzene	100-41-4	< 0.000992	0.000992		mg/kg	10.14.19 20.48	U	1
m,p-Xylenes	179601-23-1	< 0.00198	0.00198		mg/kg	10.14.19 20.48	U	1
o-Xylene	95-47-6	< 0.000992	0.000992		mg/kg	10.14.19 20.48	U	1
Total Xylenes	1330-20-7	< 0.000992	0.000992		mg/kg	10.14.19 20.48	U	1
Total BTEX		< 0.000992	0.000992		mg/kg	10.14.19 20.48	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	119	%	70-130	10.14.19 20.48		
1,4-Difluorobenzene		540-36-3	105	%	70-130	10.14.19 20.48		

Certificate of Analytical Results 639886

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Line

Sample Id: Lab Sample Id	SS04 : 639886-004		Matrix: Date Colle	Soil cted: 10.14	.19 10.54	I	Date Received:10. Sample Depth:0.5	14.19 13.5 ft	6
Analytical Met	hod: Chloride by EF	PA 300				I	Prep Method: E30	00P	
Tech:	MAB					ç	% Moisture:		
Analyst:	MAB		Date Prep:	10.14	.19 18.10]	Basis: We	t Weight	
Seq Number:	3104255								
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	13800	499		mg/kg	10.14.19 20.18		50
Analytical Met Tech: Analyst: Seq Number:	hod: TPH by SW80 DTH DTH 3104322	15 Mod	Date Prep:	10.14	.19 12.10	I ç	Prep Method: SW % Moisture: Basis: We	8015P t Weight	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range H	Iydrocarbons (GRO)	PHC610	<50.0	50.0		mg/kg	10.15.19 00.09	U	1
Diesel Range Org	anics (DRO)	C10C28DRO	<50.0	50.0		mg/kg	10.15.19 00.09	U	1
Motor Oil Range Hy	drocarbons (MRO)	PHCG2835	<50.0	50.0		mg/kg	10.15.19 00.09	U	1
Total GRO-DRO		PHC628	<50.0	50.0		mg/kg	10.15.19 00.09	U	1
Total TPH		PHC635	<50.0	50.0		mg/kg	10.15.19 00.09	U	1
Surrogate			Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooct	ane		111-85-3	84	%	70-135	10.15.19 00.09		
o-Terphenyl	l		84-15-1	78	%	70-135	10.15.19 00.09		

Certificate of Analytical Results 639886

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Line

Sample Id: Lab Sample Id	SS04 l: 639886-004		Matrix: Date Collected	Soil : 10.14.19 10.54	Date Received Sample Depth	:10.14.19 13.56 :0.5 ft
Analytical Me Tech:	thod: BTEX by EPA 802 MAB	В			Prep Method: % Moisture:	SW5030B
Analyst:	MAB		Date Prep:	10.14.19 16.10	Basis:	Wet Weight
Seq Number:	3104315					
D (li DI			

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.000992	0.000992		mg/kg	10.14.19 21.07	U	1
Toluene	108-88-3	< 0.000992	0.000992		mg/kg	10.14.19 21.07	U	1
Ethylbenzene	100-41-4	< 0.000992	0.000992		mg/kg	10.14.19 21.07	U	1
m,p-Xylenes	179601-23-1	< 0.00198	0.00198		mg/kg	10.14.19 21.07	U	1
o-Xylene	95-47-6	< 0.000992	0.000992		mg/kg	10.14.19 21.07	U	1
Total Xylenes	1330-20-7	< 0.000992	0.000992		mg/kg	10.14.19 21.07	U	1
Total BTEX		< 0.000992	0.000992		mg/kg	10.14.19 21.07	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	105	%	70-130	10.14.19 21.07		
4-Bromofluorobenzene		460-00-4	117	%	70-130	10.14.19 21.07		



Certificate of Analytical Results 639886

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Line

Sample Id:	SS05		Matrix:	Soil]	Date Received:10.	14.19 13.5	6
Lab Sample Id	1: 639886-005		Date Coll	ected: 10.14	.19 10.56		Sample Depth: 0.5	ft	
Analytical Me	thod: Chloride by EP	PA 300]	Prep Method: E30	00P	
Tech:	MAB					(% Moisture:		
Analyst:	MAB		Date Prep	: 10.14	.19 18.10]	Basis: We	t Weight	
Seq Number:	3104255		-						
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	16200	497		mg/kg	10.14.19 20.24		50
Analytical Me Tech: Analyst: Seq Number:	thod: TPH by SW80 DTH DTH 3104322	15 Mod	Date Prep	o: 10.14	.19 12.10]	Prep Method: SW % Moisture: Basis: We	8015P t Weight	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range I	Hydrocarbons (GRO)	PHC610	<50.2	50.2		mg/kg	10.15.19 00.29	U	1
Diesel Range Org	ganics (DRO)	C10C28DRO	<50.2	50.2		mg/kg	10.15.19 00.29	U	1
Motor Oil Range H	ydrocarbons (MRO)	PHCG2835	<50.2	50.2		mg/kg	10.15.19 00.29	U	1
Total GRO-DRO)	PHC628	<50.2	50.2		mg/kg	10.15.19 00.29	U	1
Total TPH		PHC635	<50.2	50.2		mg/kg	10.15.19 00.29	U	1
Surrogate			Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooc	tane		111-85-3	90	%	70-135	10.15.19 00.29		
o-Terpheny	r l		84-15-1	89	%	70-135	10.15.19 00.29		

Certificate of Analytical Results 639886

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Line

Sample Id:	SS05		Matrix:	Soil		Date Received	:10.14.19	13.56
Lab Sample Id	1: 639886-005		Date Collecte	d: 10.14.19 10.56		Sample Depth	:0.5 ft	
Analytical Me	ethod: BTEX by EPA 802	1B				Prep Method:	SW50301	3
Tech:	MAB					% Moisture:		
Analyst:	MAB		Date Prep:	10.14.19 16.10		Basis:	Wet Weig	ght
Seq Number:	3104315							
Parameter		Cas Number	Result R	T.	Unite	Analycic D	ata Fla	

Parameter	Cas Number	Result	KL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.000988	0.000988		mg/kg	10.14.19 21.26	U	1
Toluene	108-88-3	0.00265	0.000988		mg/kg	10.14.19 21.26		1
Ethylbenzene	100-41-4	0.00108	0.000988		mg/kg	10.14.19 21.26		1
m,p-Xylenes	179601-23-1	0.00291	0.00198		mg/kg	10.14.19 21.26		1
o-Xylene	95-47-6	0.00138	0.000988		mg/kg	10.14.19 21.26		1
Total Xylenes	1330-20-7	0.00429	0.000988		mg/kg	10.14.19 21.26		1
Total BTEX		0.00802	0.000988		mg/kg	10.14.19 21.26		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	121	%	70-130	10.14.19 21.26		
1,4-Difluorobenzene		540-36-3	105	%	70-130	10.14.19 21.26		



Certificate of Analytical Results 639886

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Line

Sample Id: SS06		Matrix:	Soil	10 10 57		Date Received:10.	.14.19 13.5	б
Lao Sample Id. 059880-000		Date Coll	ected. 10.14	.19 10.37	1	Sample Depth. 0.5		
Analytical Method: Chloride by EPA	300					Prep Method: E3	00P	
Tech: MAB						% Moisture:		
Analyst: MAB		Date Prep	: 10.14	.19 18.10		Basis: We	et Weight	
Seq Number: 3104255								
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	25100	992		mg/kg	10.14.19 20.31		100
Analytical Method:TPH by SW8015Tech:DTHAnalyst:DTHSeq Number:3104322	5 Mod	Date Prep	: 10.14	.19 12.10		Prep Method: SW % Moisture: Basis: We	V8015P et Weight	
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	427	50.2		mg/kg	10.15.19 01.28		1
Diesel Range Organics (DRO)	C10C28DRO	1410	50.2		mg/kg	10.15.19 01.28		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	102	50.2		mg/kg	10.15.19 01.28		1
Total GRO-DRO	PHC628	1840	50.2		mg/kg	10.15.19 01.28		1
Total TPH	PHC635	1940	50.2		mg/kg	10.15.19 01.28		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	96	%	70-135	10.15.19 01.28		
o-Terphenyl		84-15-1	88	%	70-135	10.15.19 01.28		

Certificate of Analytical Results 639886

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Line

Sample Id:SS06Lab Sample Id:639886-006	Matrix: Date Collected	Soil : 10.14.19 10.57	Date Received Sample Depth	:10.14.19 13.56 :0.5 ft
Analytical Method:BTEX by EPA 8021BTech:MABAnalyst:MABSeq Number:3104315	Date Prep:	10.14.19 16.10	Prep Method: % Moisture: Basis:	SW5030B Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.290	0.00495		mg/kg	10.14.19 21.45		1
Toluene	108-88-3	17.5	0.990		mg/kg	10.15.19 10.30	D	200
Ethylbenzene	100-41-4	17.4	0.990		mg/kg	10.15.19 10.30	D	200
m,p-Xylenes	179601-23-1	61.5	1.98		mg/kg	10.15.19 10.30	D	200
o-Xylene	95-47-6	26.7	0.990		mg/kg	10.15.19 10.30	D	200
Total Xylenes	1330-20-7	88.2	0.990		mg/kg	10.15.19 10.30		200
Total BTEX		123	0.00495		mg/kg	10.15.19 10.30		200
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	89	%	70-130	10.14.19 21.45		
4-Bromofluorobenzene		460-00-4	470	%	70-130	10.14.19 21.45	**	



Certificate of Analytical Results 639886

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Line

Sample Id:	SS07		Matrix:	Soil		Date Received:10.14.19 13.56			
Lab Sample Id:	639886-007		Date Coll	ected: 10.14	.19 10.59	:	Sample Depth: 0.5	ft	
Analytical Met	hod: Chloride by EPA	3 00]	Prep Method: E3	00P	
Tech:	MAB						% Moisture:		
Analyst:	MAB		Date Prep	: 10.14	.19 18.10]	Basis: We	t Weight	
Seq Number:	3104255								
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	15800	496		mg/kg	10.14.19 20.37		50
Analytical Method:TPH by SW8015 MotTech:DTHAnalyst:DTHSeq Number:3104322		5 Mod	Date Prep	o: 10.14	.19 12.10]	Prep Method: SW % Moisture: Basis: We	78015P t Weight	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range H	Hydrocarbons (GRO)	PHC610	1530	251		mg/kg	10.15.19 00.49		5
Diesel Range Org	ganics (DRO)	C10C28DRO	8930	251		mg/kg	10.15.19 00.49		5
Motor Oil Range H	ydrocarbons (MRO)	PHCG2835	794	251		mg/kg	10.15.19 00.49		5
Total GRO-DRO)	PHC628	10500	251		mg/kg	10.15.19 00.49		5
Total TPH		PHC635	11300	251		mg/kg	10.15.19 00.49		5
Surrogate			Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chloroocta	ane		111-85-3	116	%	70-135	10.15.19 00.49		
o-Terphenyl			84-15-1	152	%	70-135	10.15.19 00.49	**	

Certificate of Analytical Results 639886

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Line

Sample Id:	SS07		Matrix:	Soil		Date Received	l:10.14	.19 13.56	j	
Lab Sample Id	1: 639886-007		Date Collected: 10.14.19 10.59			Sample Depth: 0.5 ft				
Analytical Me	ethod: BTEX by EPA 802	1B				Prep Method:	SW5	030B		
Tech:	MAB					% Moisture:				
Analyst:	MAB		Date Prep:	10.14.19 16.10		Basis:	Wet V	Weight		
Seq Number:	3104315									
Parameter		Cas Number	Result R	L	Units	Analysis D	ate	Flag	Di	

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	0.561	0.0198		mg/kg	10.14.19 22.05		20
Toluene	108-88-3	14.8	0.198		mg/kg	10.15.19 10.49	D	200
Ethylbenzene	100-41-4	7.28	0.0198		mg/kg	10.14.19 22.05		20
m,p-Xylenes	179601-23-1	35.0	0.395		mg/kg	10.15.19 10.49	D	200
o-Xylene	95-47-6	15.3	0.198		mg/kg	10.15.19 10.49	D	200
Total Xylenes	1330-20-7	50.3	0.198		mg/kg	10.15.19 10.49		200
Total BTEX		72.9	0.0198		mg/kg	10.15.19 10.49		200
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	104	%	70-130	10.14.19 22.05		
4-Bromofluorobenzene		460-00-4	168	%	70-130	10.14.19 22.05	**	



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 Clie	nt Sample	BLK	Method Blank	
BKS/LCS	Blank Spike/Laboratory Control Sample	BKSD/LCSD	Blank Spike Duplicate/Laboration	atory 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 89 SWD Line

Analytical Method:	Chloride by EPA 30	0						P	ep Metho	d: E30	OP	
Seq Number:	3104255			Matrix:	Solid				Date Pre	p: 10.	14.19	
MB Sample Id:	7688098-1-BLK		LCS San	nple Id:	7688098-2	I-BKS		LCS	D Sample	Id: 768	8098-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limi	t Units	Analysis Date	Flag
Chloride	<10.0	300	299	100	302	101	90-110	1	20	mg/kg	10.14.19 18:27	

Analytical Method:	Chloride by EPA	300						P	rep Metho	od: E3	00P	
Seq Number:	3104255			Matrix:	Soil				Date Pre	ep: 10.	14.19	
Parent Sample Id:	639802-006		MS Sar	nple Id:	639802-00)6 S		MS	D Sample	e Id: 639	9802-006 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	Flag
Chloride	21.4	4 200	256	117	254	116	90-110	1	20	mg/kg	10.14.19 19:20	Х

Analytical Method: TPH by SW8015 Mod								F	Prep Method	i: SW	8015P	
3104322			Matrix: Solid					Date Prep: 10.14.19				
7688113-1-	BLK		LCS Sar	nple Id:	7688113-	113-1-BKS LCSD Sample Id			Id: 768	d: 7688113-1-BSD		
	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
ns (GRO)	< 50.0	1000	818	82	829	83	70-135	1	35	mg/kg	10.14.19 20:50	
DRO)	<50.0	1000	739	74	760	76	70-135	3	35	mg/kg	10.14.19 20:50	
	MB %Rec	MB Flag	L %	CS Rec	LCS Flag	LCSI %Re) LCS c Flag	D I g	Limits	Units	Analysis Date	
	82		1	04		96		7	0-135	%	10.14.19 20:50	
	85		ç	93		94		7	0-135	%	10.14.19 20:50	
	TPH by SV 3104322 7688113-1- ns (GRO) DRO)	TPH by SW8015 Mo 3104322 7688113-1-BLK MB Result ns (GRO) <50.0 DRO) <50.0 MB %Rec 82 85	Mage Second State Second State	TPH by SW8015 Mod 3104322 7688113-1-BLK LCS Sar MB Spike Result LCS Result ns (GRO) <50.0	TPH by SW8015 Mod 3104322 Matrix: 7688113-1-BLK LCS Sample Id: MB Spike LCS LCS ns (GRO) <50.0	TPH by SW8015 Mod 3104322 Matrix: Solid 7688113-1-BLK LCS Sample Id: 7688113- MB Spike LCS LCS LCSD LCSD Result Result ns (GRO) <50.0	TPH by SW8015 Mod 3104322 Matrix: Solid 7688113-1-BLK LCS Sample Id: 7688113-1-BKS MB Spike LCS LCS LCSD LCSD LCSD ns (GRO) <50.0	TPH by SW8015 Mod 3104322 Matrix: Solid 7688113-1-BLK LCS Sample Id: 7688113-1-BKS MB Spike LCS LCS LCSD LCSD LCSD LISD ns (GRO) <50.0	MB Spike LCS LCS	MB Spike LCS LCS Result Result Result Result MR Spike LCS LCS Result Result	MB Spike LCS LCS LCS LCS LCS LCS LCS LCS Matrix: Solid LCSD Sample Id: 7688113-1-BLK LCSD Sample Id: 7688113-1-BKS LCSD Sample Id: 7688 MB Spike LCS LCS LCSD LCSD LCSD MB M	Prep Method: SW8015P 3104322 Matrix: Solid Date Prep: $10.14.19$ 7688113-1-BLK LCS Sample Id: 7688113-1-BKS LCS Dample Id: 7688113-1-BKS 7688113-1-BKS 7688113-1-BKS Result $7688113-1-BKS$ Result $7688113-1-BKS$ LCS Dample Id: 7688113-1-BSD MB Spike LCS LCS LCS Result 868 Result $7688113-1-BKS$ LCS Dample Id: $7688113-1-BSD$ ns (GRO) <50.0

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW80	015P	
Seq Number:	3104322	Matrix:	Solid	Date Prep:	10.14	.19	
		MB Sample Id:	7688113-1-BLK				
Parameter		MB Result		τ	J nits	Analysis Date	Flag
Motor Oil Range Hydrocarb	oons (MRO)	<50.0		m	ng/kg	10.14.19 20:30	

[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



PLU 89 SWD Line

Analytical Method:TPH by SW8015 ModSeq Number:3104322				Matrix: Soil					Prep Method: SW8015P Date Prep: 10.14.19					
Parent Sample Id:	639802-005	5		MS Sample Id: 639802-005 S			05 S	MSD Sample Id: 639802-005 SD						
Parameter		Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag	
Gasoline Range Hydrocarbo	ons (GRO)	< 50.2	1000	934	93	897	90	70-135	4	35	mg/kg	10.14.19 21:50		
Diesel Range Organics (DRO)	< 50.2	1000	828	83	813	81	70-135	2	35	mg/kg	10.14.19 21:50		
Surrogate				N %	1S Rec	MS Flag	MSD %Rec	MSD c Flag		Limits	Units	Analysis Date		
1-Chlorooctane				1	02		100		7	0-135	%	10.14.19 21:50		
o-Terphenyl				1	00		98		7	0-135	%	10.14.19 21:50		

Analytical Method:	BTEX by EPA 802	1B						Prep Method: SW5030B					
Seq Number:	3104315		Matrix: Solid						Date Prep: 10.14.19				
MB Sample Id:	7688133-1-BLK		LCS Sample Id: 76881			/688133-1-BKS LCS			CSD Sample Id: 7688133-1-BSD				
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPI	ORPD Lim	it Units	Analysis Date	Flag	
Benzene	< 0.00100	0.100	0.0948	95	0.0980	98	70-130	3	35	mg/kg	10.14.19 18:26		
Toluene	< 0.00100	0.100	0.0936	94	0.0968	97	70-130	3	35	mg/kg	10.14.19 18:26		
Ethylbenzene	< 0.00100	0.100	0.0972	97	0.101	101	71-129	4	35	mg/kg	10.14.19 18:26		
m,p-Xylenes	< 0.00200	0.200	0.197	99	0.202	101	70-135	3	35	mg/kg	10.14.19 18:26		
o-Xylene	< 0.00100	0.100	0.0968	97	0.0992	99	71-133	2	35	mg/kg	10.14.19 18:26		
Surrogate	MB %Rec	MB Flag	L(%]	CS Rec	LCS Flag	LCSI %Re) LCS c Flag	D i g	Limits	Units	Analysis Date		
1,4-Difluorobenzene	99		1	00		101		,	70-130	%	10.14.19 18:26		
4-Bromofluorobenzene	98		1	03		102		,	70-130	%	10.14.19 18:26		

Analytical Method:	BTEX by EPA 8021	B						F	Prep Metho	d: SW	5030B	
Seq Number:	3104315]	Matrix:	Soil				Date Pre	p: 10.1	14.19	
Parent Sample Id:	639886-001		MS San	nple Id:	639886-0	01 S		MS	SD Sample	Id: 639	886-001 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	< 0.000994	0.0994	0.0965	97	0.0825	83	70-130	16	35	mg/kg	10.14.19 19:04	
Toluene	< 0.000994	0.0994	0.0934	94	0.0792	80	70-130	16	35	mg/kg	10.14.19 19:04	
Ethylbenzene	< 0.000994	0.0994	0.0955	96	0.0803	81	71-129	17	35	mg/kg	10.14.19 19:04	
m,p-Xylenes	< 0.00199	0.199	0.192	96	0.161	81	70-135	18	35	mg/kg	10.14.19 19:04	
o-Xylene	< 0.000994	0.0994	0.0969	97	0.0826	83	71-133	16	35	mg/kg	10.14.19 19:04	
Surrogate			N %]	IS Rec	MS Flag	MSD %Ree	o MSI c Flag) I g	Limits	Units	Analysis Date	
1,4-Difluorobenzene			1	05		104		7	0-130	%	10.14.19 19:04	
4-Bromofluorobenzene			1	11		110		7	0-130	%	10.14.19 19:04	

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

Final 1.000

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

X	MATORIE	ωU	Houston, Midland	TX (281) 240-420 I,TX (432-704-544	10 Dallas	s, TX (214 aso, TX () 902-03 915)585	0 San Antonio,TX (210) 509-3334 443 Lubbock,TX (806)794-1296		,	
Droiget Manager	Dan Moir	н	obbs,NM (575-392-	Bill to: (if different	2 (480-3	vle Littre	Atlanta	5A (770-449-8800) Tampa,FL (013-	Work	Order Comments	2
Company Name:	LT Environmental	. Inc., Permian	office	Company Nam	e X	TO Ene	ſġy		Program: UST/PST RP	rownfields RC	1)perfund
Address:	3300 North A Stre	iet		Address:					State of Project:		
City, State ZIP:	Midland, Tx 7970			City, State ZIP:					Reporting:Level II evel I		
Phone:	(432) 236-3849		Email:	wmather@ltenv	I.com, o	Imoir@	tenv.co		Deliverables: EDD	ADaPT Othe	en
Project Name:	PLU 8	9 SWD Line	Tu	rn Around				ANALYSIS REQU	EST	Work C	Order Notes
Project Number:	012	2919246	Routi	ne			-				
P.O. Number:	Edo	dy County	Rush	JALL		_					
Sampler's Name:	Willi	am Mather	Due [Date:/0/15		+	-				
SAMPLE RECE	IPT Temp I	Blank: (Yes) No	o Wet Ice:	Yes No	3	-					
Temperature (°C):	150		Thermometer I	D	iners	_))				
Received Intact:	(Yes) N	•	- MM-OC	5	onta	8021	300.0				
Sample Custody Seal	IS: Yes NO	N/A T	otal Containers:	ہ ند ر	r of C	A 801	(EPA			IAI starts the lab, if rece	vived by 4:30pm
Sample Ident	tification M	latrix Date	Time d Sampled	Depth	Numbe	TPH (EI	Chlorid			Sample	Comments
SS01	s	10/14/20	19 16:50	0.5	1	×	×			di	iscrete
SS02	s	10/14/20	19 10-575:49	0.5		××	×			a	liscrete
SS03	s	10/14/20	19 15.50	0.5		×	×			di	iscrete
SS04	s	10/14/20	19 15:52	0.5 1	-	×	×			di	iscrete
SS05	s	10/14/20	19 15:55	0.5		×	×			di	iscrete
SS06	s	10/14/20	19 10.515:57	0.5	-	×	×			di	iscrete
SS07	7 S	10/14/20	19 15:58	0.5		×	×			di	iscrete
Total 200.7 / 60 Circle Method(10 200.8 / 602 (s) and Metal(s) to	0: be analyzed	8RCRA 13PF TCLP / SPL	PM Texas 11 . P 6010 : 8RC	AI SI RA SI	b As F b As F	3a Be 3a Be	3 Cd Ca Cr Co Cu Fe Pb 3d Cr Co Cu Pb Mn Mo N	Mg Mn Mo Ni K Se Ag li Se Ag Tl U	SiO2 Na Sr TI Sn U 1631 / 245.1 / 74	J V Zn 170 / 7471 : Hg
Notice: Signature of this d of service. Xenco will be l of Xenco. A minimum cha	ocument and relinquish liable only for the cost o rge of \$75.00 will be apj	ment of samples cor f samples and shall plied to each project	nstitutes a valid purc not assume any resp and a charge of \$5 f	chase order from cl ponsibility for any l for each sample su	lient com losses or bmitted to	pany to X expense o Xenco,	enco, its s incurrec but not ar	filiates and subcontractors. It assigns by the client if such losses are due to c llyzed. These terms will be enforced ur	standard terms and conditions ircumstances beyond the control less previously negotiated.		
Relinquished by:	(Signature)	Receive	ed by: (Signatur	(e)	D	ate/Tin	le	Relinquished by: (Signat	ure) Received by:	(Signature)	Date/Time
1 SI- M	R	NON	Jun	(10/14	19	3:5U	2			
n w	((4 0			
c										Revise	ed Date 051418 Rev. 2018.1



XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc. Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 10/14/2019 01:56:00 PM Temperature Measuring device used : T-NM-007 Work Order #: 639886 Sample Receipt Checklist Comments #1 *Tomporature of coolor(c)? 10

#1 remperature of cooler(s)?	1.6
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6*Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by: Elizabeth McClellan

Date: 10/14/2019

Checklist reviewed by: Jessica Vramer

Jessica Kramer

Date: 10/15/2019

Analytical Report 644194

for LT Environmental, Inc.

Project Manager: Dan Moir

PLU 89 SWD Riser

012919246

25-NOV-19

Collected By: Client



1089 N Canal Street Carlsbad, NM 88220

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

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

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



25-NOV-19

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

Reference: XENCO Report No(s): 644194 PLU 89 SWD Riser Project Address: Eddy County

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 644194. 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. 644194 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Vermer

 Jessica Kramer

 Project Assistant

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



LT Environmental, Inc., Arvada, CO

PLU 89 SWD Riser

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01	S	11-21-19 10:40	2 ft	644194-001
BH02	S	11-21-19 14:45	4 ft	644194-003
BH03	S	11-21-19 15:20	2 ft	644194-004
BH04	S	11-21-19 15:30	2 ft	644194-005
BH05	S	11-21-19 15:40	2 ft	644194-006
BH06	S	11-21-19 16:05	2 ft	644194-007
BH07	S	11-21-19 16:15	2 ft	644194-008
BH01A	S	11-21-19 11:20	3 ft	Not Analyzed



CASE NARRATIVE

Client Name: LT Environmental, Inc. Project Name: PLU 89 SWD Riser

 Project ID:
 012919246

 Work Order Number(s):
 644194

 Report Date:
 25-NOV-19

 Date Received:
 11/22/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments: Batch: LBA-3108512 BTEX by EPA 8021B Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis. Samples affected are: 644194-007. Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Project Id:012919246Contact:Dan MoirProject Location:Eddy County

Certificate of Analysis Summary 644194

LT Environmental, Inc., Arvada, CO Project Name: PLU 89 SWD Riser

Date Received in Lab:Fri Nov-22-19 09:12 amReport Date:25-NOV-19Project Manager:Jessica Kramer

	Lab Id:	644194-0	001	644194-	003	644194-	004	644194-	005	644194-	006	644194-0	007
Analysis Paguastad	Field Id:	BH01		BH02	2	BH03	3	BH04	4	BH05	5	BH06	5
Analysis Requested	Depth:	2- ft		4- ft		2- ft		2- ft		2- ft		2- ft	
	Matrix:	SOIL	,	SOIL									
	Sampled:	Nov-21-19	10:40	Nov-21-19	14:45	Nov-21-19	15:20	Nov-21-19	15:30	Nov-21-19	15:40	Nov-21-19	16:05
BTEX by EPA 8021B	Extracted:	Nov-22-19	10:11										
	Analyzed:	Nov-22-19	17:22	Nov-22-19	17:56	Nov-22-19	18:14	Nov-22-19	18:31	Nov-22-19	18:49	Nov-22-19	19:06
	Units/RL:	mg/kg	RL										
Benzene		< 0.00198	0.00198	< 0.00199	0.00199	< 0.00199	0.00199	< 0.00198	0.00198	< 0.00197	0.00197	< 0.00198	0.00198
Toluene		< 0.00198	0.00198	< 0.00199	0.00199	< 0.00199	0.00199	< 0.00198	0.00198	< 0.00197	0.00197	< 0.00198	0.00198
Ethylbenzene		< 0.00198	0.00198	< 0.00199	0.00199	< 0.00199	0.00199	< 0.00198	0.00198	< 0.00197	0.00197	< 0.00198	0.00198
m,p-Xylenes		< 0.00397	0.00397	< 0.00398	0.00398	< 0.00398	0.00398	< 0.00397	0.00397	< 0.00394	0.00394	< 0.00395	0.00395
o-Xylene		< 0.00198	0.00198	< 0.00199	0.00199	< 0.00199	0.00199	< 0.00198	0.00198	< 0.00197	0.00197	< 0.00198	0.00198
Total Xylenes		< 0.00198	0.00198	< 0.00199	0.00199	< 0.00199	0.00199	< 0.00198	0.00198	< 0.00197	0.00197	< 0.00198	0.00198
Total BTEX		< 0.00198	0.00198	< 0.00199	0.00199	< 0.00199	0.00199	< 0.00198	0.00198	< 0.00197	0.00197	< 0.00198	0.00198
Chloride by EPA 300	Extracted:	Nov-22-19	11:11										
	Analyzed:	Nov-22-19	16:57	Nov-22-19	17:10	Nov-22-19	17:30	Nov-22-19	17:37	Nov-22-19	17:43	Nov-22-19	17:50
	Units/RL:	mg/kg	RL										
Chloride		7190	200	7510	201	<10.1	10.1	3600	101	15.9	10.1	<9.98	9.98
TPH by SW8015 Mod	Extracted:	Nov-22-19	12:00										
	Analyzed:	Nov-22-19	12:25	Nov-22-19	13:45	Nov-22-19	14:05	Nov-22-19	14:25	Nov-22-19	14:45	Nov-22-19	15:05
	Units/RL:	mg/kg	RL										
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1	<49.9	49.9	<50.2	50.2	<49.9	49.9	<49.9	49.9	<50.2	50.2
Diesel Range Organics (DRO)		<50.1	50.1	<49.9	49.9	< 50.2	50.2	<49.9	49.9	<49.9	49.9	<50.2	50.2
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1	<49.9	49.9	<50.2	50.2	<49.9	49.9	<49.9	49.9	<50.2	50.2
Total GRO-DRO		<50.1	50.1	<49.9	49.9	<50.2	50.2	<49.9	49.9	<49.9	49.9	<50.2	50.2
Total TPH		<50.1	50.1	<49.9	49.9	<50.2	50.2	<49.9	49.9	<49.9	49.9	<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.

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fession kenner

Jessica Kramer Project Assistant

da,	CO		
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Page 5 of 25

Final 1.000



Project Id:012919246Contact:Dan MoirProject Location:Eddy County

Certificate of Analysis Summary 644194

LT Environmental, Inc., Arvada, CO Project Name: PLU 89 SWD Riser

Date Received in Lab:Fri Nov-22-19 09:12 amReport Date:25-NOV-19Project Manager:Jessica Kramer

	Lab Id:	644194-008			
Analysis Paguastad	Field Id:	BH07			
Anaiysis Kequesiea	Depth:	2- ft			
	Matrix:	SOIL			
	Sampled:	Nov-21-19 16:15			
BTEX by EPA 8021B	Extracted:	Nov-22-19 10:11	ſ	1	
	Analyzed:	Nov-22-19 19:23			
	Units/RL:	mg/kg RL			
Benzene		<0.00200 0.00200			
Toluene		<0.00200 0.00200			
Ethylbenzene		<0.00200 0.00200			
m,p-Xylenes		<0.00399 0.00399			
o-Xylene		<0.00200 0.00200			
Total Xylenes		<0.00200 0.00200			
Total BTEX		<0.00200 0.00200			
Chloride by EPA 300	Extracted:	Nov-22-19 11:11			
	Analyzed:	Nov-22-19 17:56			
	Units/RL:	mg/kg RL			
Chloride		<9.92 9.92			
TPH by SW8015 Mod	Extracted:	Nov-22-19 12:00			
	Analyzed:	Nov-22-19 15:25			
	Units/RL:	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2			
Diesel Range Organics (DRO)		<50.2 50.2			
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2			
Total GRO-DRO		<50.2 50.2			
Total TPH		<50.2 50.2			

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

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Jessica Kramer Project Assistant

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Certificate of Analytical Results 644194

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Riser

Sample Id:	BH01		Matrix:	Soil	10.10.40]	Date Received:11.2	22.19 09.12	2
Lab Sample Id	: 644194-001		Date Col	lected: 11.21.	.19 10.40		Sample Depth: 2 ft		
Analytical Me	thod: Chloride by EF	PA 300]	Prep Method: E30	0P	
Tech:	MAB						% Moisture:		
Analyst:	MAB		Date Pret	p: 11.22.	.19 11.11]	Basis: Wet	Weight	
Seq Number:	3108482]					U	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	7190	200		mg/kg	11.22.19 16.57		20
Analytical Me Tech: Analyst: Seq Number:	thod: TPH by SW80 DTH DTH 3108478	15 Mod	Date Prej	o: 11.22.	.19 12.00]	Prep Method: SW % Moisture: Basis: Wet	8015P Weight	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range I	Hydrocarbons (GRO)	PHC610	<50.1	50.1		mg/kg	11.22.19 12.25	U	1
Diesel Range Org	ganics (DRO)	C10C28DRO	<50.1	50.1		mg/kg	11.22.19 12.25	U	1
Motor Oil Range H	ydrocarbons (MRO)	PHCG2835	<50.1	50.1		mg/kg	11.22.19 12.25	U	1
Total GRO-DRO		PHC628	<50.1	50.1		mg/kg	11.22.19 12.25	U	1
Total TPH		PHC635	<50.1	50.1		mg/kg	11.22.19 12.25	U	1
Surrogate			Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooc	tane		111-85-3	100	%	70-135	11.22.19 12.25		
o-Terpheny	'l		84-15-1	103	%	70-135	11.22.19 12.25		

Certificate of Analytical Results 644194

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Riser

Sample Id: Lab Sample Id	BH01 : 644194-001	Matrix: Date Collected	Soil : 11.21.19 10.40	Date Received Sample Depth	:11.22.19 09.12 :2 ft
Analytical Me Tech:	thod: BTEX by EPA 8021B MAB			Prep Method: % Moisture:	SW5030B
Analyst: Seq Number:	MAB 3108512	Date Prep:	11.22.19 10.11	Basis:	Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00198	0.00198		mg/kg	11.22.19 17.22	U	1
Toluene	108-88-3	< 0.00198	0.00198		mg/kg	11.22.19 17.22	U	1
Ethylbenzene	100-41-4	< 0.00198	0.00198		mg/kg	11.22.19 17.22	U	1
m,p-Xylenes	179601-23-1	< 0.00397	0.00397		mg/kg	11.22.19 17.22	U	1
o-Xylene	95-47-6	< 0.00198	0.00198		mg/kg	11.22.19 17.22	U	1
Total Xylenes	1330-20-7	< 0.00198	0.00198		mg/kg	11.22.19 17.22	U	1
Total BTEX		< 0.00198	0.00198		mg/kg	11.22.19 17.22	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	40	50-00-4	114	%	70-130	11.22.19 17.22		
1,4-Difluorobenzene	54	40-36-3	95	%	70-130	11.22.19 17.22		



Certificate of Analytical Results 644194

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Riser

Sample Id:	BH02		Matrix:	Soil		Ι	Date Received:11.2	2.19 09.12	2
Lab Sample Id	l: 644194-003		Date Colle	cted: 11.21.1	9 14.45	S	Sample Depth: 4 ft		
Analytical Me	ethod: Chloride by EP	A 300				F	Prep Method: E30	0P	
Tech:	MAB					9	% Moisture:		
Analyst:	MAB		Date Prep:	11.22.1	9 11.11	F	Basis: Wet	Weight	
Seq Number:	3108482		_F .					U	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	7510	201		mg/kg	11.22.19 17.10		20
Analytical Me Tech: Analyst: Seq Number:	ethod: TPH by SW801 DTH DTH 3108478	15 Mod	Date Prep:	11.22.1	19 12.00	F 9 F	Prep Method: SW8 6 Moisture: Basis: Wet	8015P Weight	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range l	Hydrocarbons (GRO)	PHC610	<49.9	49.9		mg/kg	11.22.19 13.45	U	1
Diesel Range Org	ganics (DRO)	C10C28DRO	<49.9	49.9		mg/kg	11.22.19 13.45	U	1
Motor Oil Range H	lydrocarbons (MRO)	PHCG2835	<49.9	49.9		mg/kg	11.22.19 13.45	U	1
Total GRO-DRO)	PHC628	<49.9	49.9		mg/kg	11.22.19 13.45	U	1
Total TPH		PHC635	<49.9	49.9		mg/kg	11.22.19 13.45	U	1
Surrogate			% Cas Number	Recovery	Units	Limits	Analysis Date	Flag	

0 1	70 Kecu	very	TT •4	T • •/	
Surrogate	Cas Number		Units	Limits	Analysis Date
1-Chlorooctane	111-85-3	106	%	70-135	11.22.19 13.45
o-Terphenyl	84-15-1	114	%	70-135	11.22.19 13.45

Certificate of Analytical Results 644194

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Riser

Sample Id: Lab Sample Id	BH02 : 644194-003		Matrix: Date Collected	Soil : 11.21.19 14.45	Date Received Sample Depth:	:11.22.19 09.12 :4 ft
Analytical Me Tech:	thod: BTEX by EPA 8021 MAB	В			Prep Method: % Moisture:	SW5030B
Analyst:	MAB		Date Prep:	11.22.19 10.11	Basis:	Wet Weight
Seq Number:	3108512					
D		Car Namehan I	ogult DI	T T 1 /		

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00199	0.00199		mg/kg	11.22.19 17.56	U	1
Toluene	108-88-3	< 0.00199	0.00199		mg/kg	11.22.19 17.56	U	1
Ethylbenzene	100-41-4	< 0.00199	0.00199		mg/kg	11.22.19 17.56	U	1
m,p-Xylenes	179601-23-1	< 0.00398	0.00398		mg/kg	11.22.19 17.56	U	1
o-Xylene	95-47-6	< 0.00199	0.00199		mg/kg	11.22.19 17.56	U	1
Total Xylenes	1330-20-7	< 0.00199	0.00199		mg/kg	11.22.19 17.56	U	1
Total BTEX		< 0.00199	0.00199		mg/kg	11.22.19 17.56	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	5	40-36-3	95	%	70-130	11.22.19 17.56		
4-Bromofluorobenzene	4	60-00-4	116	%	70-130	11.22.19 17.56		

o-Terphenyl



Certificate of Analytical Results 644194

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Riser

Sample Id:	BH03		Matrix:	Soil		Γ	Date Received:11.2	2.19 09.1	2
Lab Sample Id	l: 644194-004		Date Collec	cted: 11.21.	19 15.20	S	ample Depth: 2 ft		
Analytical Me	thod: Chloride by EF	PA 300				F	Prep Method: E30	0P	
Tech:	MAB					9	6 Moisture:		
Analyst:	MAB		Date Prep:	11.22.1	19 11.11	E	Basis: Wet	Weight	
Seq Number:	3108482		I						
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	<10.1	10.1		mg/kg	11.22.19 17.30	U	1
Analytical Me Tech: Analyst: Seq Number:	thod: TPH by SW80 DTH DTH 3108478	15 Mod	Date Prep:	11.22.	19 12.00	F 9 E	Prep Method: SW8 6 Moisture: Basis: Wet	8015P Weight	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range I	Hydrocarbons (GRO)	PHC610	<50.2	50.2		mg/kg	11.22.19 14.05	U	1
Diesel Range Org	ganics (DRO)	C10C28DRO	<50.2	50.2		mg/kg	11.22.19 14.05	U	1
Motor Oil Range H	ydrocarbons (MRO)	PHCG2835	<50.2	50.2		mg/kg	11.22.19 14.05	U	1
Total GRO-DRO)	PHC628	<50.2	50.2		mg/kg	11.22.19 14.05	U	1
Total TPH		PHC635	<50.2	50.2		mg/kg	11.22.19 14.05	U	1
Surrogate			% Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooc	tane	11	1-85-3	92	%	70-135	11.22.19 14.05		

96

%

70-135

11.22.19 14.05

84-15-1

Certificate of Analytical Results 644194

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Riser

Sample Id: Lab Sample Id	BH03 : 644194-004	Matrix: Date Collected	Soil 11.21.19 15.20	Date Received Sample Depth	:11.22.19 09.12 :2 ft
Analytical Met Tech:	thod: BTEX by EPA 8021B MAB			Prep Method: % Moisture:	SW5030B
Analyst: Seq Number:	MAB 3108512	Date Prep:	11.22.19 10.11	Basis:	Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil	
Benzene	71-43-2	< 0.00199	0.00199		mg/kg	11.22.19 18.14	U	1	
Toluene	108-88-3	< 0.00199	0.00199		mg/kg	11.22.19 18.14	U	1	
Ethylbenzene	100-41-4	< 0.00199	0.00199		mg/kg	11.22.19 18.14	U	1	
m,p-Xylenes	179601-23-1	< 0.00398	0.00398		mg/kg	11.22.19 18.14	U	1	
o-Xylene	95-47-6	< 0.00199	0.00199		mg/kg	11.22.19 18.14	U	1	
Total Xylenes	1330-20-7	< 0.00199	0.00199		mg/kg	11.22.19 18.14	U	1	
Total BTEX		< 0.00199	0.00199		mg/kg	11.22.19 18.14	U	1	
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag		
4-Bromofluorobenzene	4	460-00-4	115	%	70-130	11.22.19 18.14			
1,4-Difluorobenzene	5	540-36-3	93	%	70-130	11.22.19 18.14			

o-Terphenyl



Certificate of Analytical Results 644194

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Riser

Sample Id:	BH04		Matrix:	Soil		Γ	Date Received:11.2	2.19 09.12	2
Lab Sample Id:	644194-005		Date Collec	eted: 11.21.	19 15.30	S	ample Depth: 2 ft		
Analytical Met	hod: Chloride by EF	PA 300				Р	Prep Method: E30	0P	
Tech:	MAB					%	6 Moisture:		
Analyst:	MAB		Date Prep:	11.22.	19 11.11	E	Basis: Wet	Weight	
Seq Number:	3108482							U	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	3600	101		mg/kg	11.22.19 17.37		10
Analytical Met Tech: Analyst: Seq Number:	hod: TPH by SW80 DTH DTH 3108478	15 Mod	Date Prep:	11.22.	19 12.00	P % E	Prep Method: SW3 6 Moisture: Basis: Wet	8015P Weight	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range H	lydrocarbons (GRO)	PHC610	<49.9	49.9		mg/kg	11.22.19 14.25	U	1
Diesel Range Org	anics (DRO)	C10C28DRO	<49.9	49.9		mg/kg	11.22.19 14.25	U	1
Motor Oil Range Hy	drocarbons (MRO)	PHCG2835	<49.9	49.9		mg/kg	11.22.19 14.25	U	1
Total GRO-DRO		PHC628	<49.9	49.9		mg/kg	11.22.19 14.25	U	1
Total TPH		PHC635	<49.9	49.9		mg/kg	11.22.19 14.25	U	1
Surrogate			% Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooct	ane	11	1-85-3	94	%	70-135	11.22.19 14.25		

98

%

84-15-1

.

70-135

11.22.19 14.25

Certificate of Analytical Results 644194

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Riser

Sample Id:	BH04	Matrix:	Soil	Date Received	:11.22.19 09.12
Lab Sample Id	: 644194-005	Date Collected	: 11.21.19 15.30	Sample Depth	:2 ft
Analytical Met Tech: Analyst: Seq Number:	hod: BTEX by EPA 8021B MAB MAB 3108512	Date Prep:	11.22.19 10.11	Prep Method: % Moisture: Basis:	SW5030B Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00198	0.00198		mg/kg	11.22.19 18.31	U	1
Toluene	108-88-3	< 0.00198	0.00198		mg/kg	11.22.19 18.31	U	1
Ethylbenzene	100-41-4	< 0.00198	0.00198		mg/kg	11.22.19 18.31	U	1
m,p-Xylenes	179601-23-1	< 0.00397	0.00397		mg/kg	11.22.19 18.31	U	1
o-Xylene	95-47-6	< 0.00198	0.00198		mg/kg	11.22.19 18.31	U	1
Total Xylenes	1330-20-7	< 0.00198	0.00198		mg/kg	11.22.19 18.31	U	1
Total BTEX		< 0.00198	0.00198		mg/kg	11.22.19 18.31	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	5	40-36-3	95	%	70-130	11.22.19 18.31		
4-Bromofluorobenzene	4	60-00-4	116	%	70-130	11.22.19 18.31		



Certificate of Analytical Results 644194

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Riser

Sample Id:BH05Lab Sample Id:644194-006		Matrix: Date Collec	Soil cted: 11.21.19 15.40		Date Received:11.2 Sample Depth: 2 ft	2.19 09.1	2
Analytical Method: Chloride by EP Tech: MAB	A 300				Prep Method: E30 % Moisture:	0P	
Analyst: MAB Seq Number: 3108482		Date Prep:	11.22.19 11.11		Basis: Wet	Weight	
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	15.9	10.1	mg/kg	11.22.19 17.43		1
Analytical Method: TPH by SW801	15 Mod				Prep Method: SW3	8015P	
Tech: DTH					% Moisture:		
Analyst: DTH		Date Prep:	11.22.19 12.00		Basis: Wet	Weight	
Seq Number: 3108478							
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.22.19 14.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	11.22.19 14.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.22.19 14.45	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	11.22.19 14.45	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	11.22.19 14.45	U	1

				8		-
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	11.22.19 14.45	
o-Terphenyl	84-15-1	115	%	70-135	11.22.19 14.45	

Certificate of Analytical Results 644194

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Riser

Sample Id: Lab Sample Id	BH05 : 644194-006		Matrix: Date Collected	Soil : 11.21.19 15.40	Date Received Sample Depth:	:11.22.19 09.12 2 ft
Analytical Me Tech:	thod: BTEX by EPA 8021 MAB	В			Prep Method: % Moisture:	SW5030B
Analyst:	MAB		Date Prep:	11.22.19 10.11	Basis:	Wet Weight
Seq Number:	3108512					
D		Car Namehan I	agult DI	T . 1 /		

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00197	0.00197		mg/kg	11.22.19 18.49	U	1
Toluene	108-88-3	< 0.00197	0.00197		mg/kg	11.22.19 18.49	U	1
Ethylbenzene	100-41-4	< 0.00197	0.00197		mg/kg	11.22.19 18.49	U	1
m,p-Xylenes	179601-23-1	< 0.00394	0.00394		mg/kg	11.22.19 18.49	U	1
o-Xylene	95-47-6	< 0.00197	0.00197		mg/kg	11.22.19 18.49	U	1
Total Xylenes	1330-20-7	< 0.00197	0.00197		mg/kg	11.22.19 18.49	U	1
Total BTEX		< 0.00197	0.00197		mg/kg	11.22.19 18.49	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	4	540-36-3	97	%	70-130	11.22.19 18.49		
4-Bromofluorobenzene	4	460-00-4	127	%	70-130	11.22.19 18.49		



Certificate of Analytical Results 644194

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Riser

Sample Id: BH06 Lab Sample Id: 644194-007	7	Matrix: Date Coll	Soil ected: 11.21	.19 16.05]	Date Received:11.2 Sample Depth: 2 ft	2.19 09.1	2
Analytical Method: Chlori Tech: MAB	de by EPA 300	D	11.00	10 11 11]	Prep Method: E30 % Moisture:	0P	
Seq Number: 3108482		Date Prep): 11.22	.19 11.11	1	Dasis: wei	weight	
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98		mg/kg	11.23.19 11.39	U	1
Analytical Method:TPH bTech:DTHAnalyst:DTHSeq Number:3108478	y SW8015 Mod	Date Prep	p: 11.22	.19 12.00]	Prep Method: SW3 % Moisture: Basis: Wet	8015P Weight	
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO) PHC610	<50.2	50.2		mg/kg	11.22.19 15.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2		mg/kg	11.22.19 15.05	U	1
Motor Oil Range Hydrocarbons (MR	PHCG2835	<50.2	50.2		mg/kg	11.22.19 15.05	U	1
Total GRO-DRO	PHC628	<50.2	50.2		mg/kg	11.22.19 15.05	U	1
Total TPH	PHC635	<50.2	50.2		mg/kg	11.22.19 15.05	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	99	%	70-135	11.22.19 15.05		
o-Terphenyl		84-15-1	101	%	70-135	11.22.19 15.05		

Certificate of Analytical Results 644194

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Riser

Sample Id: Lab Sample Id	BH06 : 644194-007	Matrix: Date Collected	Soil : 11.21.19 16.05	Date Received Sample Depth	:11.22.19 09.12 :2 ft
Analytical Me Tech:	thod: BTEX by EPA 8021B MAB			Prep Method: % Moisture:	SW5030B
Analyst: Seq Number:	MAB 3108512	Date Prep:	11.22.19 10.11	Basis:	Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil	
Benzene	71-43-2	< 0.00198	0.00198		mg/kg	11.22.19 19.06	U	1	
Toluene	108-88-3	< 0.00198	0.00198		mg/kg	11.22.19 19.06	U	1	
Ethylbenzene	100-41-4	< 0.00198	0.00198		mg/kg	11.22.19 19.06	U	1	
m,p-Xylenes	179601-23-1	< 0.00395	0.00395		mg/kg	11.22.19 19.06	U	1	
o-Xylene	95-47-6	< 0.00198	0.00198		mg/kg	11.22.19 19.06	U	1	
Total Xylenes	1330-20-7	< 0.00198	0.00198		mg/kg	11.22.19 19.06	U	1	
Total BTEX		< 0.00198	0.00198		mg/kg	11.22.19 19.06	U	1	
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag		
4-Bromofluorobenzene	2	460-00-4	135	%	70-130	11.22.19 19.06	**		
1,4-Difluorobenzene	5	540-36-3	88	%	70-130	11.22.19 19.06			

o-Terphenyl



Certificate of Analytical Results 644194

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Riser

Sample Id: BH07		Matrix: Soil			Date Received:11.22.19 09.12			
Lab Sample Id: 644194-008	Date Collec	cted: 11.21.19 16.	15	Sample Depth: 2 ft				
Analytical Method: Chloride by E	PA 300				Prep Method: E30	0P		
Tech: MAB					% Moisture:			
Analyst: MAB		Date Prep:	11.22.19 11.	11	Basis: Wet	Weight		
Seq Number: 3108482		1				-		
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil	
Chloride	16887-00-6	<9.92	9.92	mg/kg	11.22.19 17.56	U	1	
Analytical Method:TPH by SW80Tech:DTHAnalyst:DTHSeq Number:3108478)15 Mod	Date Prep:	11.22.19 12.	00	Prep Method: SW % Moisture: Basis: Wet	8015P Weight		
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil	
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.22.19 15.25	U	1	
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.22.19 15.25	U	1	
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.22.19 15.25	U	1	
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.22.19 15.25	U	1	
Total TPH	PHC635	<50.2	50.2	mg/kg	11.22.19 15.25	U	1	
Surrogate		% Cas Number	Recovery Unit	s Limit	s Analysis Date	Flag		
1-Chlorooctane	11	1-85-3	84 %	70-13	5 11.22.19 15.25			

88

%

70-135

11.22.19 15.25

84-15-1

Certificate of Analytical Results 644194

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Riser

Sample Id:BH07Lab Sample Id:644194-008	Matrix:	Soil	Date Received	:11.22.19 09.12
	Date Collected	: 11.21.19 16.15	Sample Depth:	:2 ft
Analytical Method:BTEX by EPA 8021BTech:MABAnalyst:MABSeq Number:3108512	Date Prep:	11.22.19 10.11	Prep Method: % Moisture: Basis:	SW5030B Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	11.22.19 19.23	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	11.22.19 19.23	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	11.22.19 19.23	U	1
m,p-Xylenes	179601-23-1	< 0.00399	0.00399		mg/kg	11.22.19 19.23	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	11.22.19 19.23	U	1
Total Xylenes	1330-20-7	< 0.00200	0.00200		mg/kg	11.22.19 19.23	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	11.22.19 19.23	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	120	%	70-130	11.22.19 19.23		
1,4-Difluorobenzene		540-36-3	95	%	70-130	11.22.19 19.23		


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 Clie	ent Sample	BLK	Method Blank	
BKS/LCS	Blank Spike/Laboratory Control Sample	BKSD/LCSD	Blank Spike Duplicate/Labor	atory 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 89 SWD Riser

Analytical Method:	Chloride by EPA 30	0			od: E30	OP							
Seq Number:	3108482 Matrix: Solid Date Prep: 11.22.19												
MB Sample Id:	7691019-1-BLK		LCS San	ple Id:	7691019-1	-BKS		LCS	D Sample	e Id: 769	7691019-1-BSD		
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD RPD Limit Un			Analysis Date	Flag	
Chloride	<10.0	250	258	103	265	106	90-110	3	20	mg/kg	11.22.19 14:59		

Analytical Method:	Chloride by EPA 30	od: E30	0P									
Seq Number:	3108482		Matrix: Soil Date Prep:									
Parent Sample Id:	644187-010		MS San	ple Id:	644187-01	0 S		MS	D Sample	e Id: 644	644187-010 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	ts %RPD RPD Limit Units		it Units	Analysis Date	Flag
Chloride	2320	200	2510	95	2510	95	90-110	0	20	mg/kg	11.22.19 15:17	

Analytical Method:	lytical Method: Chloride by EPA 300 Prep Method:											
Seq Number:	3108482]	Matrix:	Soil				Date Pr	ep: 11.2	22.19	
Parent Sample Id:	644191-010		MS San	nple Id:	644191-01	0 S		MS	D Sample	e Id: 644	191-010 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	Flag
Chloride	327	197	541	109	528	103	90-110	2	20	mg/kg	11.22.19 16:44	

Analytical Method:	vtical Method: TPH by SW8015 Mod Prep Method: SW8015P																
Seq Number:	3108478				Matrix:	Solid				Date Prep	p: 11.2	22.19					
MB Sample Id:	7691010-1	-BLK		LCS San	nple Id:	7691010-	I-BKS		LCS	SD Sample	ld: 769	1010-1-BSD					
Parameter		MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	SD Limits %RPD RPD Limit Units Analysis Rec Date									
Gasoline Range Hydrocarbo	ons (GRO)	<50.0	1000	894	89	861	86	5 70-135 4 35 mg/kg 11.22.19 11:08									
Diesel Range Organics (DRO)	<50.0	1000	1040	104	986	99	70-135	5	35	mg/kg	11.22.19 11:08					
Surrogate		MB %Rec	MB Flag	L %	CS Rec	LCS Flag	LCSI %Re	LCSD LCSD Limits Units Analysis %Rec Flag Date									
1-Chlorooctane		98		1	11		123		7	0-135	%	11.22.19 11:08					
o-Terphenyl		102		1	09		106		7	0-135	%	11.22.19 11:08					

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8	015P	
Seq Number:	3108478	Matrix:	Solid	Date Prep:	11.2	2.19	
		MB Sample Id:	7691010-1-BLK				
Parameter		MB Result		τ	J nits	Analysis Date	Flag
Motor Oil Range Hydrocarb	ons (MRO)	<50.0		n	ng/kg	11.22.19 10:48	

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

.

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LT Environmental, Inc.

PLU 89 SWD Riser

Analytical Method: Seq Number:	TPH by SW 3108478	/8015 M	od	1	Matrix:	Soil		Prep Method: SW8015P Date Prep: 11.22.19						
Parent Sample Id:	644194-001			MS San	nple Id:	ld: 644	644194-001 SD							
Parameter		Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag	
Gasoline Range Hydrocarbo	ons (GRO)	<13.9	999	1010	101	910	91	70-135	10	35	mg/kg	11.22.19 12:45		
Diesel Range Organics (DRO)	35.6	999	1160	113	1040	100	70-135	11	35	mg/kg	11.22.19 12:45		
Surrogate				N %]	IS Rec	MS Flag	MS MSD Flag %Re			imits	Units	Analysis Date		
1-Chlorooctane				1	18		127		70)-135	%	11.22.19 12:45		
o-Terphenyl				12	23		108		70)-135	%	11.22.19 12:45		

Analytical Method:	BTEX by EPA 8021	В]	Prep Meth	nod: SW:	5030B	
Seq Number:	3108512]	Matrix:	Solid				Date P	rep: 11.2	2.19	
MB Sample Id:	7691039-1-BLK		LCS San	nple Id:	7691039-	I-BKS		LC	SD Sampl	e Id: 769	1039-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPI) RPD Lir	nit Units	Analysis Date	Flag
Benzene	< 0.00200	0.100	0.0924	92	0.0935	94	70-130	1	35	mg/kg	11.22.19 11:35	
Toluene	< 0.00200	0.100	0.0870	87	0.0876	88	70-130	1	35	mg/kg	11.22.19 11:35	
Ethylbenzene	< 0.00200	0.100	0.0945	95	0.0957	96	71-129	1	35	mg/kg	11.22.19 11:35	
m,p-Xylenes	< 0.00400	0.200	0.188	94	0.190	95	70-135	1	35	mg/kg	11.22.19 11:35	
o-Xylene	< 0.00200	0.100	0.0926	93	0.0938	94	71-133	1	35	mg/kg	11.22.19 11:35	
Surrogate	MB %Rec	MB Flag	L0 %]	CS Rec	LCS Flag	LCSI %Re	D LCS c Flag)	Limits	Units	Analysis Date	
1,4-Difluorobenzene	97		9	94		95		70-130 % 11.22.19 11:35				
4-Bromofluorobenzene	113		1	06		108			70-130	%	11.22.19 11:35	

Analytical Method:	BTEX by EPA 8021	IB]	Prep Meth	od: SW:	5030B					
Seq Number:	3108512		ľ	Matrix:	Soil				Date P	rep: 11.2	2.19					
Parent Sample Id:	644184-001		MS Sam	ple Id:	644184-00	01 S		Μ	SD Sampl	e Id: 644	184-001 SD					
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPI) RPD Lin	nit Units	Analysis Date	Flag				
Benzene	< 0.00198	0.0988	0.0957	97	0.102	103	70-130	6	35	mg/kg	11.22.19 12:09					
Toluene	0.000888	0.0988	0.0884	89	0.0959	96	70-130	8	8 35 mg/kg 11.22.19 12							
Ethylbenzene	< 0.00198	0.0988	0.0949	96	0.103	104	71-129	8 35 mg/kg 11.22.19 12:09								
m,p-Xylenes	< 0.000988	0.198	0.187	94	0.205	104	70-135	9	35	mg/kg	11.22.19 12:09					
o-Xylene	< 0.00198	0.0988	0.0922	93	0.101	102	71-133	9	35	mg/kg	11.22.19 12:09					
Surrogate			M %1	IS Rec	MS Flag	MSD %Re) MSE c Flag	MSD Limits Units Analysis Flag Date								
1,4-Difluorobenzene			9	5		98		,	70-130	%	11.22.19 12:09					
4-Bromofluorobenzene			10)6		117		,	70-130	%	11.22.19 12:09					

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

Final 1.000

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

	2 (Marine - (mar	Relinquished by: (Sig	of service. Xenco will be liable of Xenco. A minimum charge o	Circle Method(s) an Notice: Signature of this docum	Total 200.7 / 6010		BH07	BHOG	BH05	PH04	BHO3	20H9	SHUIA	DHUI		Sample Custody Seals:	Sample Custody Code.	Received Intact:	Temperature (°C):	SAMPLE RECEIP	Sampler's Name:	P.O. Number:	Project Number:	Project Name:	Phone: (4	City, State ZIP: N	Address: 3	Company Name:	Project Manager:	X
	Marine .	jnature) Received	only for the cost of samples and shall n f \$75.00 will be applied to each project a	nd Metal(s) to be analyzed	200.8 / 6020:		* *							S 11/2//19	Matrix Sample	Yes (No) N/A To	res (Mg N/A Co	Mes No -	1.0	T Temp Blank: Kes N	Elizabeth Naka	Eddy County	012919246	PLU 89 BWD Rise	132) 236-3849	fidland, Tx 79705	300 North A Street	.T Environmental, Inc., Permia	Dan Moir	
		by: (Signature)	ot assume any responsibility for any lo and a charge of \$5 for each sample sub	TCLP / SPLP 6010: 8RCR	8RCRA 13PPM Texas 11	EW	1615 2 1	16 05	1540	1530 1	1520 21	H 34FI	1120 31	1 1046 2'	d Sampled Depth	Time 8	prrection Factor: -0.2	T-NM-007	Thermometer ID	lo Wet Ice: Kes No	Due Date:	Rush: 24 hour	Routine 1	Turn Around	Email: enaka@ltenv.c	City, State ZIP	Address:	in office Company Nan	Bill to: (if differer	Houston,TX (281) 240-4 Midland,TX (432-704-5 Hobbs,NM (575-392-7550) Phoenix
	1 1 2 50:1 61/22	Date/Time Relinc	ent company to Xenco, its affiliates and seses or expenses incurred by the clien mitted to Xenco, but not analyzed. Thes	A Sb As Ba Be Cd Cr Co	Al Sh As Ba Be B CH Ca									XXXI	Num TPH (BTEX Chlor	EPA 80 (EPA 0	Co ()15) ()=80 ()A 30	ntair 021) 00.0)	ners						om, dmoir@ltenv.com			ne: XTO Energy	nt) Kyle Littrell	Chain of Cust 200 Dallas,TX (214) 902-0300 San 1440) EL Paso,TX (915)585-3443 Lu .AZ (480-355-0900) Atlanta,GA (770
	C C C	quished by: (Signature)	I subcontractors. It assigns standard it if such losses are due to circumstar se terms will be enforced unless prev	o Cu Pb Mn Mo Ni Se Aç																					Deliv	Rep		Dro		COCY Antonio, TX (210) 509-3334 ubbock, TX (806)794-1296 0-449-8800) Tampa FI (413-620-2
	PL LITH	Received by: (Signature)	terms and conditions rces beyond the control lously nenotiated	TI U 1631/2							4	M N	0			ТА									Verables: EDD Anapt	orting: Level II Tevel III TET/I IC	State of Project:	Work Order Cor	www.xelico.com	Work Order No:
Revised Date 051418 Rev. 2018.1	11/22/19 9/12	Date/Time		TI Sn U V Zn 15.1/7470 /7471 : Hg							sert	bld	SCRR		Sample Comments	vT starts the day recevied by the lab, if received by 4:30pm							Work Order Notes	Other.			ds CC Derfund	nments	Page v of I	44444

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XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc. Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 11/22/2019 09:12:00 AM Temperature Measuring device used : T-NM-007 Work Order #: 644194 Sample Receipt Checklist Comments

	-
#1 *Temperature of cooler(s)?	1.4
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6*Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	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

 Checklist reviewed by:
 Jessica WAMER

 Jessica Kramer

Date: 11/22/2019

Date: 11/23/2019

Analytical Report 644772

for LT Environmental, Inc.

Project Manager: Dan Moir

PLU 89 SWD Line

012919246

03-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)



03-DEC-19

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

Reference: XENCO Report No(s): 644772 PLU 89 SWD Line Project Address: Eddy County

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 644772. 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. 644772 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Vermer

 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 644772

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Line

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH08	S	12-02-19 11:35	6 ft	644772-001
BH08A	S	12-02-19 11:50	7 ft	644772-002



CASE NARRATIVE

Client Name: LT Environmental, Inc. Project Name: PLU 89 SWD Line

 Project ID:
 012919246

 Work Order Number(s):
 644772

 Report Date:
 03-DEC-19

 Date Received:
 12/02/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments: Batch: LBA-3109146 TPH by SW8015 Mod Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis. Samples affected are: 644679-001 S.

Batch: LBA-3109160 BTEX by EPA 8021B Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3109171 Chloride by EPA 300

Lab Sample ID 644772-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered above QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 644772-001, -002. The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.



Project Id:012919246Contact:Dan MoirProject Location:Eddy County

Certificate of Analysis Summary 644772

LT Environmental, Inc., Arvada, CO Project Name: PLU 89 SWD Line

Date Received in Lab:Mon Dec-02-19 03:19 pmReport Date:03-DEC-19Project Manager:Jessica Kramer

	Lab Id:	644772-0	001	644772-0	002		
Analysis Paguastad	Field Id:	BH08	3	BH08A	4		
Analysis Kequesiea	Depth:	6- ft		7- ft			
	Matrix:	SOIL	,	SOIL			
	Sampled:	Dec-02-19	11:35	Dec-02-19	11:50		
BTEX by EPA 8021B	Extracted:	Dec-02-19	16:00	Dec-02-19	16:00		
	Analyzed:	Dec-03-19	05:09	Dec-03-19	05:28		
	Units/RL:	mg/kg	RL	mg/kg	RL		
Benzene		< 0.0200	0.0200	< 0.0196	0.0196		
Toluene		< 0.0200	0.0200	< 0.0196	0.0196		
Ethylbenzene		< 0.0200	0.0200	0.0434	0.0196		
m,p-Xylenes		0.114	0.0400	0.344	0.0392		
o-Xylene		0.0489	0.0200	0.161	0.0196		
Total Xylenes		0.163	0.0200	0.505	0.0196		
Total BTEX		0.163	0.0200	0.548	0.0196		
Chloride by EPA 300	Extracted:	Dec-02-19	16:00	Dec-02-19	16:00		
	Analyzed:	Dec-02-19	17:32	Dec-02-19	17:53		
	Units/RL:	mg/kg	RL	mg/kg	RL		
Chloride		1440 D	50.0	8970 D	499		
TPH by SW8015 Mod	Extracted:	Dec-02-19	16:00	Dec-02-19	16:00		
	Analyzed:	Dec-02-19	21:52	Dec-02-19	21:52		
	Units/RL:	mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		<50.2	50.2	<49.9	49.9		
Diesel Range Organics (DRO)		244	50.2	459	49.9		
Motor Oil Range Hydrocarbons (MRO)		<50.2	50.2	<49.9	49.9		
Total GRO-DRO		244	50.2	459	49.9		
Total TPH		244	50.2	459	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

fession kenner

Jessica Kramer Project Assistant

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Certificate of Analytical Results 644772

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Line

Sample Id:	BH08		Matrix:	Soil		Date Received:12.02.19 15.19					
Lab Sample Id:	644772-001		Date Colle	ected: 12.02	2.19 11.35	:	Sample Depth: 6 ft				
Analytical Meth	nod: Chloride by EP	A 300]	Prep Method: E30	OP			
Tech:	MAB					(% Moisture:				
Analyst:	MAB		Date Prep	: 12.02	2.19 16.00]	Basis: Wet	Weight			
Seq Number:	3109171										
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil		
Chloride		16887-00-6	1440	50.0		mg/kg	12.03.19 10.59	D	50		
Analytical Method:TPH by SW8015 ModTech:DTHAnalyst:DTHSeq Number:3109146		15 Mod	Date Prep	: 12.02	2.19 16.00]	Prep Method: SW % Moisture: Basis: Wet	8015P : Weight			
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil		
Gasoline Range Hy	ydrocarbons (GRO)	PHC610	<50.2	50.2		mg/kg	12.02.19 21.52	U	1		
Diesel Range Org	anics (DRO)	C10C28DRO	244	50.2		mg/kg	12.02.19 21.52		1		
Motor Oil Range Hyd	irocarbons (MRO)	PHCG2835	<50.2	50.2		mg/kg	12.02.19 21.52	U	1		
Total GRO-DRO		PHC628	244	50.2		mg/kg	12.02.19 21.52		1		
Total TPH		PHC635	244	50.2		mg/kg	12.02.19 21.52		1		
Surrogate			Cas Number	% Recovery	Units	Limits	Analysis Date	Flag			
1-Chloroocta	ine		111-85-3	114	%	70-135	12.02.19 21.52				
o-Terphenyl			84-15-1	120	%	70-135	12.02.19 21.52				

Certificate of Analytical Results 644772

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Line

Sample Id:	BH08		Matrix:	Soil		Date Received	1:12.02	.19 15.19	
Lab Sample Io	1: 644772-001		Date Collecte	d: 12.02.19 11.35		Sample Depth	:6 ft		
Analytical Me	ethod: BTEX by EPA 802	1B				Prep Method:	SW50)30B	
Tech:	MAB					% Moisture:			
Analyst:	MAB		Date Prep:	12.02.19 16.00		Basis:	Wet V	Weight	
Seq Number:	3109160								
Parameter		Cas Number	Result R	L	Units	Analysis D	ate	Flag	Dil

Parameter	Cas Number	Kesuit	KL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.0200	0.0200		mg/kg	12.03.19 05.09	U	1
Toluene	108-88-3	< 0.0200	0.0200		mg/kg	12.03.19 05.09	U	1
Ethylbenzene	100-41-4	< 0.0200	0.0200		mg/kg	12.03.19 05.09	U	1
m,p-Xylenes	179601-23-1	0.114	0.0400		mg/kg	12.03.19 05.09		1
o-Xylene	95-47-6	0.0489	0.0200		mg/kg	12.03.19 05.09		1
Total Xylenes	1330-20-7	0.163	0.0200		mg/kg	12.03.19 05.09		1
Total BTEX		0.163	0.0200		mg/kg	12.03.19 05.09		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	101	%	70-130	12.03.19 05.09		
4-Bromofluorobenzene		460-00-4	115	%	70-130	12.03.19 05.09		



Certificate of Analytical Results 644772

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Line

Sample Id:	BH08A	Matrix:	Soil		Date Received:12.02.19 15.19						
Lab Sample Id:	644772-002		Date Coll	ected: 12.02	.19 11.50	Sample Depth: 7 ft					
Analytical Met	hod: Chloride by EP	A 300				Prep Method: E300P					
Tech:	MAB					ç	% Moisture:				
Analyst:	MAB		Date Prep	: 12.02	.19 16.00	1	Basis: We	t Weight			
Seq Number:	3109171		-								
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil		
Chloride		16887-00-6	8970	499		mg/kg	12.03.19 11.18	D	50		
Analytical Method: TPH by SW8015 Mod Tech: DTH Analyst: DTH Seq Number: 3109146		15 Mod	Date Prep	o: 12.02	.19 16.00		Prep Method: SW % Moisture: Basis: We	8015P t Weight			
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil		
Gasoline Range H	ydrocarbons (GRO)	PHC610	<49.9	49.9		mg/kg	12.02.19 21.52	U	1		
Diesel Range Org	ganics (DRO)	C10C28DRO	459	49.9		mg/kg	12.02.19 21.52		1		
Motor Oil Range Hy	drocarbons (MRO)	PHCG2835	<49.9	49.9		mg/kg	12.02.19 21.52	U	1		
Total GRO-DRO)	PHC628	459	49.9		mg/kg	12.02.19 21.52		1		
Total TPH		PHC635	459	49.9		mg/kg	12.02.19 21.52		1		
Surrogate			Cas Number	% Recovery	Units	Limits	Analysis Date	Flag			
1-Chlorooct	ane		111-85-3	104	%	70-135	12.02.19 21.52				
o-Terphenyl			84-15-1	115	%	70-135	12.02.19 21.52				

Certificate of Analytical Results 644772

LT Environmental, Inc., Arvada, CO

PLU 89 SWD Line

Sample Id:	BH08A		Matrix:	Soil		Date Received:12.	02.19 15.19	9	
Lab Sample Id	d: 644772-002		Date Colle	cted: 12.02.19 11.50	Sample Depth: 7 ft				
Analytical Me	ethod: BTEX by EPA 8	021B				Prep Method: SW	/5030B		
Tech:	MAB					% Moisture:			
Analyst:	MAB		Date Prep:	12.02.19 16.00		Basis: We	t Weight		
Seq Number:	3109160								
Parameter		Cas Number	Result	RL	Units	Analysis Date	Flag	Dil	
Benzene		71-43-2	< 0.0196	0.0196	mg/kg	12.03.19 05.28	U	1	
Toluene		108-88-3	< 0.0196	0.0196	mg/kg	12.03.19 05.28	U	1	

Toluene	108-88-3	< 0.0196	0.0196		mg/kg	12.03.19 05.28	U	1
Ethylbenzene	100-41-4	0.0434	0.0196		mg/kg	12.03.19 05.28		1
m,p-Xylenes	179601-23-1	0.344	0.0392		mg/kg	12.03.19 05.28		1
o-Xylene	95-47-6	0.161	0.0196		mg/kg	12.03.19 05.28		1
Total Xylenes	1330-20-7	0.505	0.0196		mg/kg	12.03.19 05.28		1
Total BTEX		0.548	0.0196		mg/kg	12.03.19 05.28		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	114	%	70-130	12.03.19 05.28		
1,4-Difluorobenzene		540-36-3	101	%	70-130	12.03.19 05.28		



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 Clie	nt Sample	BLK	Method Blank	
BKS/LCS	Blank Spike/Laboratory Control Sample	BKSD/LCSD	Blank Spike Duplicate/Labora	atory 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



PLU 89 SWD Line

Analytical Method:	Chloride by EPA 30)0						Pr	ep Metho	od: E300)P	
Seq Number:	3109171			Matrix:	Solid				Date Pre	ep: 12.0	2.19	
MB Sample Id:	7691461-1-BLK		LCS San	nple Id:	7691461-1	I-BKS		LCSI	O Sample	Id: 7691	461-1-BSD	
D (MD	G	LCC	TOO			- • •/			4 TT !4-	A	
Parameter	Result	Amount	Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	KPD LIM	it Units	Date	Flag

Analytical Method:	Chloride by E	EPA 300)						Pr	ep Metho	od: E30	OP	
Seq Number:	3109171]	Matrix:	Soil				Date Pr	ep: 12.0)2.19	
Parent Sample Id:	644679-001			MS San	nple Id:	644679-00	01 S		MSI	D Sample	e Id: 644	679-001 SD	
Parameter	Pa R	arent lesult	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	Flag
Chloride		<10.1	201	220	109	219	108	90-110	0	20	mg/kg	12.02.19 15:58	

Analytical Method:	Chloride by EPA 30	0						Pi	ep Metho	od: E30	OP	
Seq Number:	3109171			Matrix:	Soil				Date Pre	ep: 12.0)2.19	
Parent Sample Id:	644772-001		MS Sar	nple Id:	644772-00	01 S		MS	D Sample	e Id: 644	772-001 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	Flag
Chloride	1440	247	14600	5328	14600	5243	90-110	0	20	mg/kg	12.03.19 11:05	Х

Analytical Method:	TPH by S	W8015 M	od						F	rep Method	l: SW	8015P	
Seq Number:	3109146				Matrix:	Solid				Date Prep	o: 12.0	02.19	
MB Sample Id:	7691483-1	I-BLK		LCS Sar	nple Id:	7691483-	1-BKS	LCSD Sample Id: 7691483-1-BSD					
Parameter		MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarb	ons (GRO)	< 50.0	1000	879	88	976	98	70-135	10	35	mg/kg	12.02.19 19:14	
Diesel Range Organics	(DRO)	<50.0	1000	1070	107	1140	114	70-135	6	35	mg/kg	12.02.19 19:14	
Surrogate		MB %Rec	MB Flag	L %	CS Rec	LCS Flag	LCSI %Ree) LCS c Flag	D I g	Limits	Units	Analysis Date	
1-Chlorooctane		118		1	20		132		7	0-135	%	12.02.19 19:14	
o-Terphenyl		120		1	22		131		7	0-135	%	12.02.19 19:14	

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8	3015P	
Seq Number:	3109146	Matrix:	Solid	Date Prep:	12.0	2.19	
		MB Sample Id:	7691483-1-BLK				
Parameter		MB Result		τ	J nits	Analysis Date	Flag
Motor Oil Range Hydrocarb	ons (MRO)	<50.0		n	ng/kg	12.02.19 19:14	

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

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

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

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

.

Page 11 of 14



LT Environmental, Inc.

PLU 89 SWD Line

Analytical Method:	TPH by SV	V8015 M	od						F	rep Method	l: SW	8015P	
Seq Number:	3109146				Matrix:	Soil				Date Prep	b: 12.0	2.19	
Parent Sample Id:	644679-001			MS Sar	nple Id:	644679-0	01 S		MS	D Sample	(d: 644	679-001 SD	
Parameter		Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbo	ons (GRO)	< 50.0	1000	983	98	898	89	70-135	9	35	mg/kg	12.03.19 09:09	
Diesel Range Organics ((DRO)	< 50.0	1000	1250	125	1100	109	70-135	13	35	mg/kg	12.03.19 09:09	
Surrogate				N %	AS Rec	MS Flag	MSD %Rec	MSD c Flag) I ;	limits	Units	Analysis Date	
1-Chlorooctane				1	35		119		7	0-135	%	12.03.19 09:09	
o-Terphenyl				1	36	**	125		7	0-135	%	12.03.19 09:09	

Analytical Method:	BTEX by EPA 8021	B]	Prep Metho	d: SW	5030B	
Seq Number:	3109160		1	Matrix:	Solid				Date Pre	ep: 12.0	02.19	
MB Sample Id:	7691464-1-BLK		LCS San	nple Id:	7691464-	1-BKS		LC	SD Sample	Id: 769	1464-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPI) RPD Limi	t Units	Analysis Date	Flag
Benzene	< 0.00200	0.100	0.0856	86	0.0885	89	70-130	3	35	mg/kg	12.02.19 21:17	
Toluene	< 0.00200	0.100	0.0854	85	0.0908	91	70-130	6	35	mg/kg	12.02.19 21:17	
Ethylbenzene	< 0.00200	0.100	0.0839	84	0.0901	90	71-129	7	35	mg/kg	12.02.19 21:17	
m,p-Xylenes	< 0.00400	0.200	0.177	89	0.191	96	70-135	8	35	mg/kg	12.02.19 21:17	
o-Xylene	< 0.00200	0.100	0.0900	90	0.0977	98	71-133	8	35	mg/kg	12.02.19 21:17	
Surrogate	MB %Rec	MB Flag	L0 %]	CS Rec	LCS Flag	LCSI %Ree) LCSI c Flag	D i g	Limits	Units	Analysis Date	
1,4-Difluorobenzene	99		10	02		101		,	70-130	%	12.02.19 21:17	
4-Bromofluorobenzene	108		1	14		114		,	70-130	%	12.02.19 21:17	

Analytical Method:	BTEX by EPA 8021	B						F	Prep Metho	od: SW	5030B	
Seq Number:	3109160		1	Matrix:	Soil				Date Pre	ep: 12.0	02.19	
Parent Sample Id:	644679-001		MS San	nple Id:	644679-00	01 S		MS	SD Sample	Id: 644	679-001 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	Flag
Benzene	< 0.00202	0.101	0.0836	83	0.0744	74	70-130	12	35	mg/kg	12.02.19 22:59	
Toluene	< 0.00202	0.101	0.0847	84	0.0780	78	70-130	8	35	mg/kg	12.02.19 22:59	
Ethylbenzene	< 0.00202	0.101	0.0843	83	0.0776	78	71-129	8	35	mg/kg	12.02.19 22:59	
m,p-Xylenes	< 0.000760	0.202	0.178	88	0.165	82	70-135	8	35	mg/kg	12.02.19 22:59	
o-Xylene	< 0.00202	0.101	0.0897	89	0.0853	85	71-133	5	35	mg/kg	12.02.19 22:59	
Surrogate			M %I	IS Rec	MS Flag	MSD %Rec	MSE c Flag		Limits	Units	Analysis Date	
1,4-Difluorobenzene			10	00		98		7	0-130	%	12.02.19 22:59	
4-Bromofluorobenzene			1	11		119		7	0-130	%	12.02.19 22:59	

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

Final 1.000

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

Deviced Data Data State	a		_			
						UN
	4		(5	3
	2	2/19/15-19	121	MII	cha 18 20	1 Elselust 7
 Received by: (Signature) Date/Time 	Relinquished by: (Signature	Date/Time	e)	Received by: (Signatur	Signature)	Relinquished by: (i
standard terms and conditions cumstances beyond the control ss previously negotiated.	affiliates and subcontractors. It assigns s I by the client if such losses are due to cirr halyzed. These terms will be enforced unle	it company to Xenco, its ses or expenses incurred itted to Xenco, but not ar	chase order from clier ponsibility for any los for each sample subm	ampres constitutes a valid pur and shall not assume any res ch project and a charge of \$5	e of \$75.00 will be applied to ea	of service. Xenco will be lial of Xenco. A minimum charg
Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn Se Ag Ti U 1631 / 245.1 / 7470 / 7471 : Hg	B Cd Ca Cr Co Cu Fe Pb N Xd Cr Co Cu Pb Mn Mo Ni S	Sb As Ba Be C	P 6010: 8RCRA	VZEC TCLP / SPL	and Metal(s) to be analy	Circle Method(s)
					0 200 8 / 6020-	Total 200 7/604
	10m	Elizaber 1				
	An. l.	6 1 227				
						/
		* *	7' 4	× 1156	t	PHO 87
discrete		XXX	6' 1	12/2/19 1135	5	8 DHG
Sample Comments		TPH (E BTEX (Chlorid	Depth Numb	Date Time Sampled Sampled	fication Matrix	Sample Identi
lab, if received by the lab, if received by 4:30pm		PA 80 EPA (er of	Total Containers:	: Yes (No) N/A	Sample Custody Seals
)15))=80 (A 3)	-0.2 00	Correction Factor:	Yes NO NIA	Cooler Custody Seals:
)21) 00.0)	CO7	T-NN-	(Yes) No	Received Intact:
		,	ners	Thermometer	0, 0	Temperature (°C):
			Yes No	Yes No Wet Ice:	PT Temp Blank:	SAMPLE RECEI
			Date:	aka Due	Elizabeth N	Sampler's Name:
			: 3day	nty Rush	Eddy Cour	P.O. Number:
			ne 🛛	Rout	012919246	Project Number:
3T Work Order Notes	ANALYSIS REQUES		rn Around	Line To	DLU 89 SWD	Project Name:
Deliverables: EDD ADaPT Other:		n, dmoir@ltenv.com	enaka@ltenv.com	Email:	432) 236-3849	Phone: (
Reporting:Level II _evel IIIFT/USTRPRP			City, State ZIP:		Midland, Tx 79705	City, State ZIP:
State of Project:			Address:		3300 North A Street	Address:
Program: UST/PST TRP Frownfields TRC Tperfund		XTO Energy	Company Name:	Permian office	LT Environmental, Inc.,	Company Name:
Work Order Comments		Kyle Littrell	Bill to: (if different)		Dan Moir	Project Manager:
120-2000) www.xenco.com Page I of	a,GA (770-449-8800) Tampa,FL (813-6	(480-355-0900) Atlanta	2-7550) Phoenix,AZ	Hobbs,NM (575-39)		
	300 San Antonio,TX (210) 509-3334 5-3443 Lubbock TX (806)794-1296	Dallas, TX (214) 902-0;) EL Paso, TX (915)585	n,TX (281) 240-4200 nd,TX (432-704-5440	Housto		X
Work Order No: 1444772	Sustody	Chain of (\$
	37 72 200					

Page 90 of 131

XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc. Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 12/02/2019 03:19:00 PM Temperature Measuring device used : T-NM-007 Work Order #: 644772 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

 Checklist reviewed by:
 Jessica Warmer

 Jessica Kramer

Date: 12/02/2019

Date: 12/03/2019

Analytical Report 645890

for LT Environmental, Inc.

Project Manager: Dan Moir

PLU 89

012919246

12-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)



12-DEC-19

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

Reference: XENCO Report No(s): 645890 PLU 89 Project Address: Eddy County

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 645890. 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. 645890 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Vermer

 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 645890

LT Environmental, Inc., Arvada, CO

PLU 89

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	12-10-19 12:29	4 ft	645890-001
FS02	S	12-10-19 13:23	4 ft	645890-002
FS03	S	12-10-19 14:09	4 ft	645890-003
SW01	S	12-10-19 14:20	0 - 4 ft	645890-004
SW02	S	12-10-19 14:21	0 - 4 ft	645890-005

•



CASE NARRATIVE

Client Name: LT Environmental, Inc. Project Name: PLU 89

 Project ID:
 012919246

 Work Order Number(s):
 645890

 Report Date:
 12-DEC-19

 Date Received:
 12/11/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3110184 Chloride by EPA 300

Lab Sample ID 645890-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 645890-001, -002, -003, -004, -005. The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3110217 BTEX by EPA 8021B Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Project Id:012919246Contact:Dan MoirProject Location:Eddy County

Certificate of Analysis Summary 645890

LT Environmental, Inc., Arvada, CO

Project Name: PLU 89

Date Received in Lab:Wed Dec-11-19 12:20 pmReport Date:12-DEC-19Project Manager:Jessica Kramer

	Lab Id:	645890-0	001	645890-0	002	645890-	003	645890-0	004	645890-0	005	
Analysis Paguastad	Field Id:	FS01		FS02		FS03		SW01	l I	SW02	2	
Analysis Kequeslea	Depth:	4- ft		4- ft		4- ft		0-4 ft	:	0-4 ft		
	Matrix:	SOIL										
	Sampled:	Dec-10-19	12:29	Dec-10-19	13:23	Dec-10-19	14:09	Dec-10-19	14:20	Dec-10-19	14:21	
BTEX by EPA 8021B	Extracted:	Dec-11-19	13:00									
	Analyzed:	Dec-11-19	16:28	Dec-11-19	22:19	Dec-11-19	17:06	Dec-11-19	17:25	Dec-11-19	17:44	
	Units/RL:	mg/kg	RL									
Benzene		< 0.00200	0.00200	< 0.00200	0.00200	< 0.00200	0.00200	< 0.00202	0.00202	< 0.00200	0.00200	
Toluene		< 0.00200	0.00200	< 0.00200	0.00200	< 0.00200	0.00200	< 0.00202	0.00202	< 0.00200	0.00200	
Ethylbenzene		< 0.00200	0.00200	< 0.00200	0.00200	< 0.00200	0.00200	< 0.00202	0.00202	< 0.00200	0.00200	
m,p-Xylenes		< 0.00401	0.00401	0.00524	0.00399	< 0.00401	0.00401	0.00585	0.00403	0.00426	0.00401	
o-Xylene		< 0.00200	0.00200	0.00329	0.00200	< 0.00200	0.00200	0.00458	0.00202	0.00301	0.00200	
Total Xylenes		< 0.00200	0.00200	0.00853	0.00200	< 0.00200	0.00200	0.0104	0.00202	0.00727	0.00200	
Total BTEX		< 0.00200	0.00200	0.00853	0.00200	< 0.00200	0.00200	0.0104	0.00202	0.00727	0.00200	
Chloride by EPA 300	Extracted:	Dec-11-19	13:54									
	Analyzed:	Dec-11-19	15:38	Dec-11-19	15:56	Dec-11-19	16:01	Dec-11-19	16:07	Dec-11-19	16:36	
	Units/RL:	mg/kg	RL									
Chloride		9000	100	9390	100	7090	49.9	4940	49.6	4700	49.5	
TPH by SW8015 Mod	Extracted:	Dec-11-19	16:40									
	Analyzed:	Dec-11-19	17:41	Dec-11-19	18:01	Dec-11-19	18:21	Dec-11-19	18:21	Dec-11-19	18:41	
	Units/RL:	mg/kg	RL									
Gasoline Range Hydrocarbons (GRO)		<50.3	50.3	<50.2	50.2	<50.1	50.1	<50.1	50.1	<49.8	49.8	
Diesel Range Organics (DRO)		<50.3	50.3	<50.2	50.2	<50.1	50.1	<50.1	50.1	<49.8	49.8	
Motor Oil Range Hydrocarbons (MRO)		<50.3	50.3	<50.2	50.2	<50.1	50.1	<50.1	50.1	<49.8	49.8	
Total GRO-DRO		<50.3	50.3	<50.2	50.2	<50.1	50.1	<50.1	50.1	<49.8	49.8	
Total TPH		<50.3	50.3	<50.2	50.2	<50.1	50.1	<50.1	50.1	<49.8	49.8	

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

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

Jession Vramer

Jessica Kramer Project Assistant

Final 1.000

Page 96 of 131

o-Terphenyl



Certificate of Analytical Results 645890

LT Environmental, Inc., Arvada, CO

PLU 89

Sample Id:	FS01		Matrix:	Soil		Ι	Date Received:12.	11.19 12.2	.0
Lab Sample Io	d: 645890-001		Date Colle	ected: 12.10	.19 12.29	S	Sample Depth: 4 ft		
Analytical Me	ethod: Chloride by EF	PA 300				I	Prep Method: E30)0P	
Tech:	MAB					ç	% Moisture:		
Analyst:	MAB		Date Prep:	12.11	.19 13.54	I	Basis: We	t Weight	
Seq Number:	3110184							U	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	9000	100		mg/kg	12.11.19 15.38		10
Analytical Me Tech: Analyst: Seq Number:	ethod: TPH by SW80 DTH DTH 3110222	15 Mod	Date Prep:	12.11	.19 16.40	H 9 H	Prep Method: SW % Moisture: Basis: We	78015P t Weight	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range	Hydrocarbons (GRO)	PHC610	<50.3	50.3		mg/kg	12.11.19 17.41	U	1
Diesel Range Or	ganics (DRO)	C10C28DRO	<50.3	50.3		mg/kg	12.11.19 17.41	U	1
Motor Oil Range H	Iydrocarbons (MRO)	PHCG2835	<50.3	50.3		mg/kg	12.11.19 17.41	U	1
Total GRO-DRO)	PHC628	<50.3	50.3		mg/kg	12.11.19 17.41	U	1
Total TPH		PHC635	<50.3	50.3		mg/kg	12.11.19 17.41	U	1
Surrogate			Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorood	ctane		111-85-3	73	%	70-135	12.11.19 17.41		

%

75

70-135

12.11.19 17.41

84-15-1



Certificate of Analytical Results 645890

LT Environmental, Inc., Arvada, CO

PLU 89

Sample Id: Lab Sample Id	FS01 : 645890-001	Matrix: Date Collected	Soil : 12.10.19 12.29	Date Received:12.11.19 12.20 Sample Depth: 4 ft				
Analytical Me Tech:	thod: BTEX by EPA 8021B MAB			Prep Method: % Moisture:	SW5030B			
Analyst: Seq Number:	MAB 3110217	Date Prep:	12.11.19 13.00	Basis:	Wet Weight			

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	12.11.19 16.28	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	12.11.19 16.28	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	12.11.19 16.28	U	1
m,p-Xylenes	179601-23-1	< 0.00401	0.00401		mg/kg	12.11.19 16.28	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	12.11.19 16.28	U	1
Total Xylenes	1330-20-7	< 0.00200	0.00200		mg/kg	12.11.19 16.28	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	12.11.19 16.28	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	111	%	70-130	12.11.19 16.28		
1,4-Difluorobenzene		540-36-3	102	%	70-130	12.11.19 16.28		

o-Terphenyl



Certificate of Analytical Results 645890

LT Environmental, Inc., Arvada, CO

PLU 89

Sample Id:	FS02		Matrix:	Soil		Ι	Date Received:12.	1.19 12.2	0
Lab Sample Id	d: 645890-002		Date Colle	cted: 12.10	.19 13.23	S	Sample Depth: 4 ft		
Analytical Me	ethod: Chloride by EF	PA 300				F	Prep Method: E30	0P	
Tech:	MAB					9	% Moisture:		
Analyst:	MAB		Date Prep:	12.11	.19 13.54	E	Basis: We	Weight	
Seq Number:	3110184							Ū	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	9390	100		mg/kg	12.11.19 15.56		10
Analytical Me Tech: Analyst: Seq Number:	ethod: TPH by SW80 DTH DTH 3110222	15 Mod	Date Prep:	12.11	.19 16.40	F 9 E	Prep Method: SW 6 Moisture: 3asis: We	8015P t Weight	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range	Hydrocarbons (GRO)	PHC610	<50.2	50.2		mg/kg	12.11.19 18.01	U	1
Diesel Range Or	ganics (DRO)	C10C28DRO	<50.2	50.2		mg/kg	12.11.19 18.01	U	1
Motor Oil Range H	lydrocarbons (MRO)	PHCG2835	<50.2	50.2		mg/kg	12.11.19 18.01	U	1
Total GRO-DRC)	PHC628	<50.2	50.2		mg/kg	12.11.19 18.01	U	1
Total TPH		PHC635	<50.2	50.2		mg/kg	12.11.19 18.01	U	1
Surrogate			Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
I-Chlorooc	ctane		111-85-3	82	%	70-135	12.11.19 18.01		

88

%

70-135

12.11.19 18.01

84-15-1

Certificate of Analytical Results 645890

LT Environmental, Inc., Arvada, CO

PLU 89

Sample Id: Lab Sample Id	FS02 : 645890-002	Matrix: Date Collected	Soil : 12.10.19 13.23	Date Received Sample Depth	:12.11.19 12.20 :4 ft
Analytical Met Tech: Analyst: Sea Number:	thod: BTEX by EPA 8021B MAB MAB 3110217	Date Prep:	12.11.19 13.00	Prep Method: % Moisture: Basis:	SW5030B Wet Weight
Seq i tamoeri					

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	12.11.19 22.19	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	12.11.19 22.19	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	12.11.19 22.19	U	1
m,p-Xylenes	179601-23-1	0.00524	0.00399		mg/kg	12.11.19 22.19		1
o-Xylene	95-47-6	0.00329	0.00200		mg/kg	12.11.19 22.19		1
Total Xylenes	1330-20-7	0.00853	0.00200		mg/kg	12.11.19 22.19		1
Total BTEX		0.00853	0.00200		mg/kg	12.11.19 22.19		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	119	%	70-130	12.11.19 22.19		
1,4-Difluorobenzene		540-36-3	103	%	70-130	12.11.19 22.19		

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Certificate of Analytical Results 645890

LT Environmental, Inc., Arvada, CO

PLU 89

Sample Id:	FS03		Matrix:	Soil		Ι	Date Received:12.1	11.19 12.2	.0
Lab Sample Id	: 645890-003		Date Coll	ected: 12.10	.19 14.09	S	Sample Depth: 4 ft		
Analytical Me	thod: Chloride by EP	PA 300				F	Prep Method: E30	00P	
Tech:	MAB					9	6 Moisture:		
Analyst:	MAB		Date Prer	. 12.11	.19 13.54	E	Basis: Wet	t Weight	
Seq Number:	3110184		2400110					U	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	7090	49.9		mg/kg	12.11.19 16.01		5
Analytical Mer Tech: Analyst: Seq Number:	thod: TPH by SW80 DTH DTH 3110222	15 Mod	Date Prep	o: 12.11	.19 16.40	F 9 F	Prep Method: SW 6 Moisture: Basis: Wet	8015P t Weight	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range H	Hydrocarbons (GRO)	PHC610	<50.1	50.1		mg/kg	12.11.19 18.21	U	1
Diesel Range Org	ganics (DRO)	C10C28DRO	<50.1	50.1		mg/kg	12.11.19 18.21	U	1
Motor Oil Range H	ydrocarbons (MRO)	PHCG2835	<50.1	50.1		mg/kg	12.11.19 18.21	U	1
Total GRO-DRO		PHC628	<50.1	50.1		mg/kg	12.11.19 18.21	U	1
Total TPH		PHC635	<50.1	50.1		mg/kg	12.11.19 18.21	U	1
Surrogate			Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooc	tane		111-85-3	76	%	70-135	12.11.19 18.21		
o-Terpheny	1		84-15-1	78	%	70-135	12.11.19 18.21		



Certificate of Analytical Results 645890

LT Environmental, Inc., Arvada, CO

PLU 89

Sample Id:FS03Lab Sample Id:645890-003	Matrix:	Soil	Date Received	:12.11.19 12.20
	Date Collected	: 12.10.19 14.09	Sample Depth:	:4 ft
Analytical Method:BTEX by EPA 8021BTech:MABAnalyst:MABSeq Number:3110217	Date Prep:	12.11.19 13.00	Prep Method: % Moisture: Basis:	SW5030B Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	12.11.19 17.06	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	12.11.19 17.06	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	12.11.19 17.06	U	1
m,p-Xylenes	179601-23-1	< 0.00401	0.00401		mg/kg	12.11.19 17.06	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	12.11.19 17.06	U	1
Total Xylenes	1330-20-7	< 0.00200	0.00200		mg/kg	12.11.19 17.06	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	12.11.19 17.06	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	103	%	70-130	12.11.19 17.06		
4-Bromofluorobenzene		460-00-4	117	%	70-130	12.11.19 17.06		



Certificate of Analytical Results 645890

LT Environmental, Inc., Arvada, CO

PLU 89

Sample Id:	SW01		Matrix:	Soil		Ι	Date Received:12.	11.19 12.2	.0
Lab Sample Id	: 645890-004		Date Coll	ected: 12.10	.19 14.20	S	Sample Depth: 0 - 4	4 ft	
Analytical Met	hod: Chloride by EP	A 300				F	Prep Method: E30)0P	
Tech:	MAB					9	6 Moisture:		
Analyst:	MAB		Date Prer	v 12.11	.19 13.54	E	Basis: We	t Weight	
Seq Number:	3110184		2400110					U	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	4940	49.6		mg/kg	12.11.19 16.07		5
Analytical Met Tech: Analyst: Seq Number:	hod: TPH by SW80 DTH DTH 3110222	15 Mod	Date Prep	o: 12.11	.19 16.40	F 9 F	Prep Method: SW 6 Moisture: Basis: Wet	8015P t Weight	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range H	Iydrocarbons (GRO)	PHC610	<50.1	50.1		mg/kg	12.11.19 18.21	U	1
Diesel Range Org	anics (DRO)	C10C28DRO	<50.1	50.1		mg/kg	12.11.19 18.21	U	1
Motor Oil Range Hy	drocarbons (MRO)	PHCG2835	<50.1	50.1		mg/kg	12.11.19 18.21	U	1
Total GRO-DRO		PHC628	<50.1	50.1		mg/kg	12.11.19 18.21	U	1
Total TPH		PHC635	<50.1	50.1		mg/kg	12.11.19 18.21	U	1
Surrogate			Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooct	ane		111-85-3	128	%	70-135	12.11.19 18.21		
o-Terpheny	l		84-15-1	135	%	70-135	12.11.19 18.21		

Certificate of Analytical Results 645890

LT Environmental, Inc., Arvada, CO

PLU 89

Sample Id:	SW01		Matrix:	Soil	Date Received	1:12.11.19 12.20	
Lab Sample Id: 645890-004			Date Collected: 12.10.19 14.20		Sample Depth: 0 - 4 ft		
Analytical Me	ethod: BTEX by EPA 8021	В			Prep Method:	SW5030B	
Tech:	MAB				% Moisture:		
Analyst:	MAB		Date Prep:	12.11.19 13.00	Basis:	Wet Weight	
Seq Number:	3110217						
D (D				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00202	0.00202		mg/kg	12.11.19 17.25	U	1
Toluene	108-88-3	< 0.00202	0.00202		mg/kg	12.11.19 17.25	U	1
Ethylbenzene	100-41-4	< 0.00202	0.00202		mg/kg	12.11.19 17.25	U	1
m,p-Xylenes	179601-23-1	0.00585	0.00403		mg/kg	12.11.19 17.25		1
o-Xylene	95-47-6	0.00458	0.00202		mg/kg	12.11.19 17.25		1
Total Xylenes	1330-20-7	0.0104	0.00202		mg/kg	12.11.19 17.25		1
Total BTEX		0.0104	0.00202		mg/kg	12.11.19 17.25		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	106	%	70-130	12.11.19 17.25		
4-Bromofluorobenzene		460-00-4	121	%	70-130	12.11.19 17.25		





Certificate of Analytical Results 645890

LT Environmental, Inc., Arvada, CO

PLU 89

Sample Id:SW02Lab Sample Id:645890-005		Matrix: Date Collec	Soil cted: 12.10.19 14.21		Date Received:12.11.19 12.20 Sample Depth: 0 - 4 ft		
Analytical Method:Chloride by EFTech:MABAnalyst:MABSeq Number:3110184	PA 300	Date Prep:	12.11.19 13.54		Prep Method: E30 % Moisture: Basis: Wet	00P t Weight	
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4700	49.5	mg/kg	12.11.19 16.36		5
Analytical Method:TPH by SW80Tech:DTHAnalyst:DTHSeq Number:3110222	15 Mod	Date Prep:	12.11.19 16.40		Prep Method: SW % Moisture: Basis: Wet	8015P t Weight	
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.11.19 18.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.11.19 18.41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.11.19 18.41	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	12.11.19 18.41	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.11.19 18.41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-135	12.11.19 18.41	
o-Terphenyl	84-15-1	82	%	70-135	12.11.19 18.41	



Certificate of Analytical Results 645890

LT Environmental, Inc., Arvada, CO

PLU 89

Sample Id:	SW02	Matrix:	Soil	Date Received	:12.11.19 12.20
Lab Sample Id	: 645890-005	Date Collected	: 12.10.19 14.21	Sample Depth	:0 - 4 ft
Analytical Mer Tech: Analyst: Seq Number:	thod: BTEX by EPA 8021B MAB MAB 3110217	Date Prep:	12.11.19 13.00	Prep Method: % Moisture: Basis:	SW5030B Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	12.11.19 17.44	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	12.11.19 17.44	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	12.11.19 17.44	U	1
m,p-Xylenes	179601-23-1	0.00426	0.00401		mg/kg	12.11.19 17.44		1
o-Xylene	95-47-6	0.00301	0.00200		mg/kg	12.11.19 17.44		1
Total Xylenes	1330-20-7	0.00727	0.00200		mg/kg	12.11.19 17.44		1
Total BTEX		0.00727	0.00200		mg/kg	12.11.19 17.44		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	104	%	70-130	12.11.19 17.44		
4-Bromofluorobenzene		460-00-4	119	%	70-130	12.11.19 17.44		



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 Clie	nt Sample	BLK	Method Blank	
BKS/LCS	Blank Spike/Laboratory Control Sample	BKSD/LCSD	Blank Spike Duplicate/Laboration	atory 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 89

Analytical Method:	Chloride by EPA 30)0						P	rep Metho	od: E30	0P	
Seq Number:	3110184			Matrix:	Solid				Date Pre	ep: 12.1	1.19	
MB Sample Id:	7692208-1-BLK		LCS Sar	mple Id: 7692208-1-BKS				LCSD Sample Id: 769			2208-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	Flag
Chloride	<10.0	250	259	104	262	105	90-110	1	20	mø/kø	12 11 19 12:39	

Analytical Method:	Chloride by	EPA 30	0						P	rep Metho	od: E30	0P	
Seq Number:	3110184]	Matrix:	Soil				Date Pre	ep: 12.1	1.19	
Parent Sample Id:	645890-001			MS San	ple Id:	645890-00	01 S		MS	D Sample	Id: 645	890-001 SD	
Parameter		Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limi	t Units	Analysis Date	Flag
Chloride		9000	200	9160	80	9170	85	90-110	0	20	mg/kg	12.11.19 15:44	Х

Analytical Method:	TPH by SV	V8015 M	od						F	Prep Method	l: SW	8015P	
Seq Number:	3110222				Matrix:	Solid				Date Prep	o: 12.	11.19	
MB Sample Id: 7692253-1-BLK			LCS Sample Id: 7692253-1-BKS		LCSD Sample Id: 7692253-1-BSD								
Parameter		MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbo	ns (GRO)	<50.0	1000	973	97	923	92	70-135	5	35	mg/kg	12.11.19 17:18	
Diesel Range Organics (I	DRO)	<50.0	1000	823	82	807	81	70-135	2	35	mg/kg	12.11.19 17:18	
Surrogate		MB %Rec	MB Flag	L/ %	CS Rec	LCS Flag	LCSI %Ree) LCSI c Flag) I	Limits	Units	Analysis Date	
1-Chlorooctane		71		1	00		95		7	0-135	%	12.11.19 17:18	
o-Terphenyl		74		ç	93		91		7	0-135	%	12.11.19 17:18	

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW80	015P	
Seq Number:	3110222	Matrix:	Solid	Date Prep:	12.11	.19	
		MB Sample Id:	7692253-1-BLK				
Parameter		MB Result		τ	Jnits	Analysis Date	Flag
Motor Oil Range Hydrocarb	oons (MRO)	<50.0		m	ng/kg	12.11.19 16:58	

[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 89

Analytical Method: Sea Number:	TPH by SV 3110222	W8015 M	lod		Matrix:	Soil			ł	Prep Method Date Pret	i: SW	8015P		
Parent Sample Id:	645890-00	1		MS Sar	nple Id:	645890-00	Sate (10): Date (10): 645890-001 S MSD Sample Id: 645890-001 SD							
Parameter		Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag	
Gasoline Range Hydrocarbo	ons (GRO)	< 50.0	1000	925	93	869	86	70-135	6	35	mg/kg	12.11.19 17:41		
Diesel Range Organics ((DRO)	< 50.0	1000	832	83	772	76	70-135	7	35	mg/kg	12.11.19 17:41		
Surrogate				N %	AS Rec	MS Flag	MSD %Re) MSE c Flag) I ç	Limits	Units	Analysis Date		
1-Chlorooctane				Ģ	98		91		7	0-135	%	12.11.19 17:41		
o-Terphenyl				ç	99		86		7	0-135	%	12.11.19 17:41		

Seq Number: 3110217 Matrix: Solid Date Prep: 12.11.19 MB Sample Id: 7692204-1-BLK LCS Sample Id: 7692204-1-BKS LCSD Sample Id: 7692204-1-BSD Parameter MB Spike Result LCS LCS LCS LCSD LCSD Limits %RPD RPD Limit Units Analysis Date	
MB Sample Id: 7692204-1-BLK LCS Sample Id: 7692204-1-BKS LCSD Sample Id: 7692204-1-BSD Parameter MB Spike Result Amount LCS LCS LCSD LCSD LCSD LCSD Sample Id: 7692204-1-BSD Parameter MB contraction Spike Result LCS LCS LCSD LCSD LCSD LCSD Sample Id: 7692204-1-BSD Parameter MB contraction Spike Result MR contraction Main Spike Result Main Spike Result LCSD LCSD LCSD LCSD Sample Id: 7692204-1-BSD Parameter Result Amount Result %Rec Result %Rec Date Parameter 0.00200 0.100 0.0024 05 0.00200 0.22 70.120 2 25 mathematical interaction	
MB Spike LCS LCSD LCSD Limits %RPD RPD Limit Units Analysis Barameter Result Amount Result %Rec Result %Rec Date	
Demonstration 0,00000, 0,100, 0,0054, 05, 0,0000, 02, 70,120, 2, 25, model 12,1110,14:52	Flag
Benzene <0.00200 0.100 0.0954 95 0.0930 93 /0-130 3 35 mg/kg 12.11.19 14:55	
Toluene <0.00200 0.100 0.0966 97 0.0956 96 70-130 1 35 mg/kg 12.11.19 14:53	
Ethylbenzene <0.00200 0.100 0.0953 95 0.0950 95 71-129 0 35 mg/kg 12.11.19 14:53	
m,p-Xylenes <0.00400 0.200 0.201 101 0.201 101 70-135 0 35 mg/kg 12.11.19 14:53	
o-Xylene <0.00200 0.100 0.101 101 0.102 102 71-133 1 35 mg/kg 12.11.19 14:53	
MBMBLCSLCSLCSDLCSDLimitsUnitsAnalysisSurrogate%RecFlag%RecFlag%RecFlagDate	
1,4-Difluorobenzene 101 104 103 70-130 % 12.11.19 14:53	
4-Bromofluorobenzene 108 115 116 70-130 % 12.11.19 14:53	

Analytical Method:	BTEX by EPA 802	lB						Р	rep Method	1: SW	5030B	
Seq Number:	3110217			Matrix:	Soil				Date Prep	p: 12.1	1.19	
Parent Sample Id:	645890-001		MS Sar	nple Id:	645890-00	01 S		MS	D Sample	Id: 645	890-001 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	< 0.00201	0.101	0.106	105	0.0782	77	70-130	30	35	mg/kg	12.11.19 15:24	
Toluene	< 0.00201	0.101	0.104	103	0.0866	86	70-130	18	35	mg/kg	12.11.19 15:24	
Ethylbenzene	< 0.00201	0.101	0.0978	97	0.0816	81	71-129	18	35	mg/kg	12.11.19 15:24	
m,p-Xylenes	< 0.00402	0.201	0.205	102	0.173	86	70-135	17	35	mg/kg	12.11.19 15:24	
o-Xylene	< 0.00201	0.101	0.104	103	0.0864	86	71-133	18	35	mg/kg	12.11.19 15:24	
Surrogate			N %	1S Rec	MS Flag	MSD %Rec	o MSE c Flag) L	imits	Units	Analysis Date	
1,4-Difluorobenzene			1	07		99		7	0-130	%	12.11.19 15:24	
4-Bromofluorobenzene			1	22		123		7	0-130	%	12.11.19 15:24	

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

1 Jak M	of Xenco. A minimum charge of \$75.00 w	Notice: Signature of this document and re of service. Xenco will be liable only for th	Total 200.7 / 6010 200.8 Circle Method(s) and Metal			TOMS	SWOI	0000	FACA	EG02	FRO	Sample Identification	Sample Custody Seals: Yes	Cooler Custody Seals: Yes	Received Intact:	Temperature (°C):	SAMPLE RECEIPT T	Sampler's Name:	PO# eddy c	Project Number: 0129	Project Name: PLU &	Phone: (432) 236-38-	City, State ZIP: Midland, TX 7	Address: 3300 Notal A	Sources and a soon North A	Company Name: LT Environme	Project Manager: Dan Moir			LABORA
Ollt	Received by: (Sign	slinquishment of samples constitutes a va the cost of samples and shall not assume a the bapplied to each project and a charge	3 / 6020: 8RCRA 13F (s) to be analyzed TCLP / \$	-	the c	1410/19	S 12/10/17 1421	S 12/10/19 1420	S 12/0/19 1400	S 12/10/19 1323	S 12/10/19 1229	Matrix Sampled Sample	No N/A Total Containers.	N/A Correction Factor.	NO T-V	2. U Thermome	emp Blank: Yes No Wet Ic	Fatima Smith Du	ounty Ru	19246 Ro	59	49 Ema	79705	1 Officer	Ctraat	ental, Inc., Permian Office			Та	TORIES
1	nature)	lid purchase order from c ny responsibility for any l of \$5 for each sample su	PPM Texas 11 Al	/		-	0-4-1	0-4. 1	4, 1	4. 1	4, 1	d Depth	per	v i of C	onti	aine	e: Kes No	e Date:	sh: 24 hrs	utine:	Turn Around	il: tsmith@itenv.co	City, State ZIP:	2 40	Address:	Company Name:	Bill to: (if different)		mpa, FL (813) 620-2000,	Midland, TX (432) 704-5 Hobbs, NM (575) 392-75
ful 19 12:20 2	Date/Time Re	lient company to Xenco, its affilia losses or expenses incurred by the bmitted to Xenco, but not analyz	Sb As Ba Be B Cd (A Sb As Ba Be Cd C				××××	××××	X X X	×××	XXX	TPH (E BTEX Chlori	EPA (EP	801: A 0= (EPA	5) 802 ⁻ . 300	1) .0)						n, amon@itenv.com	Carisbau, INIVI 00220	Decised NIN 88000	3104 E Greene St	XTO Energy, Inc.	Kyle Littrell		Tallahassee, FL (850) 756-074	440, EL Paso, TX (915) 585-34 50, Carlsbad, NM (575) 988-31
	linquished by: (Signatur	ates and subcontractors. It assi he client if such losses are due t ed. These terms will be enforced	Ca Cr Co Cu Fe Pb I Sr Co Cu Pb Mn Mo I																		ANALYSIS REQUES			R		P			17, Delray Beach, FL (301) 009 100	 H43, Lubbock, TX (806) 794-12 99, Phoenix, AZ (480) 355-090
	e) Received by:	gns standard terms and conditi to circumstances beyond the cord unless previously negotiated.	Mg Mn Mo Ni K Se A Ni Se Ag TI U																				eliverables: EDD	eporting:Level H Level H	State of Project:	rogram: UST/PST PRP	Work	www.xen	-0701	0 96
	(Signature)	ions ntrol	Ag SiO2 Na Sr TI S 1631 / 245.1 / 7									Sample		lab, if rece	TAT starts the		2				-	Work O	ADaPT Other	PST/USF TRRP	2	Brownfields RRC		co.com Page 1		
	Date/Time		3n U V Zn 470 / 7471 : Hg									Comments		ived by 4:30pm	day recevied by the							Inder Notes	п	LeveHV	2	Superruna		of	-	

Chain of Custody

Work Order No: 645 890

XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc. Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 12/11/2019 12:20:00 PM Temperature Measuring device used : T NM 007 Work Order #: 645890 Sample Receipt Checklist Comments

#1 *Temperature of cooler(s)?	2.6
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#5 Custody Seals intact on sample bottles?	No
#6*Custody Seals Signed and dated?	No
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	Yes
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by: Martha Castro Checklist reviewed by: Jessica Kramer

Date: 12/11/2019

Jessica Kramer

Date: 12/12/2019

Analytical Report 646007

for LT Environmental, Inc.

Project Manager: Dan Moir

PLU 89

012919246

12-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)



12-DEC-19

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

Reference: XENCO Report No(s): 646007 PLU 89 Project Address: Eddy County

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 646007. 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. 646007 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Vermer

 Jessica Kramer

 Project Assistant

 Recipient of the Prestigious Small Business Administration Award of Excellence in 1994. Certified and approved by numerous States and Agencies.

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Sample Cross Reference 646007

LT Environmental, Inc., Arvada, CO

PLU 89

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW03	S	12-11-19 13:50	0 - 4 ft	646007-001
SW04	S	12-11-19 14:25	0 - 4 ft	646007-002
SW05	S	12-11-19 14:14	0 - 4 ft	646007-003
FS04	S	12-11-19 14:00	4 ft	646007-004
FS05	S	12-11-19 14:02	4 ft	646007-005

•



CASE NARRATIVE

Client Name: LT Environmental, Inc. Project Name: PLU 89

 Project ID:
 012919246

 Work Order Number(s):
 646007

 Report Date:
 12-DEC-19

 Date Received:
 12/11/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments: Batch: LBA-3110219 BTEX by EPA 8021B Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3110251 TPH by SW8015 Mod Surrogate o-Terphenyl recovered above QC limits. Matrix interferences is suspected. Samples affected are: 646007-005,646007-003.



012919246 **Project Id: Contact:** Dan Moir Eddy County **Project Location:**

Certificate of Analysis Summary 646007

LT Environmental, Inc., Arvada, CO

Project Name: PLU 89

Date Received in Lab: Wed Dec-11-19 04:50 pm Report Date: 12-DEC-19 Project Manager: Jessica Kramer

	Lab Id:	646007-0	001	646007-	002	646007-0	003	646007-0	004	646007-0	005	
Analysis Requested	Field Id:	SW03	3	SW04	4	SW05	5	FS04		FS05		
Analysis Kequeslea	Depth:	0-4 ft		0-4 ft	t	0-4 ft		4- ft		4- ft		
	Matrix:	SOIL	,	SOIL	.	SOIL	,	SOIL		SOIL		
	Sampled:	Dec-11-19	13:50	Dec-11-19	14:25	Dec-11-19	14:14	Dec-11-19	14:00	Dec-11-19	14:02	
BTEX by EPA 8021B	Extracted:	Dec-11-19	17:00									
	Analyzed:	Dec-12-19	03:25	Dec-12-19	03:45	Dec-12-19	04:04	Dec-12-19	04:23	Dec-12-19	04:42	
	Units/RL:	mg/kg	RL									
Benzene		< 0.00200	0.00200	< 0.00200	0.00200	< 0.00196	0.00196	< 0.00198	0.00198	< 0.00200	0.00200	
Toluene		< 0.00200	0.00200	0.00400	0.00200	< 0.00196	0.00196	< 0.00198	0.00198	< 0.00200	0.00200	
Ethylbenzene		< 0.00200	0.00200	0.00224	0.00200	< 0.00196	0.00196	< 0.00198	0.00198	< 0.00200	0.00200	
m,p-Xylenes		< 0.00399	0.00399	0.0102	0.00399	< 0.00393	0.00393	<0.00397	0.00397	< 0.00399	0.00399	
o-Xylene		< 0.00200	0.00200	0.00408	0.00200	< 0.00196	0.00196	< 0.00198	0.00198	< 0.00200	0.00200	
Total Xylenes		< 0.00200	0.00200	0.0143	0.00200	< 0.00196	0.00196	< 0.00198	0.00198	< 0.00200	0.00200	
Total BTEX		< 0.00200	0.00200	0.0205	0.00200	< 0.00196	0.00196	< 0.00198	0.00198	< 0.00200	0.00200	
Chloride by EPA 300	Extracted:	Dec-11-19	17:34									
	Analyzed:	Dec-11-19	20:47	Dec-11-19	20:54	Dec-11-19	21:00	Dec-11-19	21:06	Dec-11-19	21:12	
	Units/RL:	mg/kg	RL									
Chloride		3140	99.6	6180	99.2	6180	99.0	2630	83.9	4300	100	
TPH by SW8015 Mod	Extracted:	Dec-11-19	17:00									
	Analyzed:	Dec-11-19	22:02	Dec-11-19	22:42	Dec-11-19	22:42	Dec-11-19	23:02	Dec-11-19	23:02	
	Units/RL:	mg/kg	RL									
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1	<50.1	50.1	<50.3	50.3	<50.2	50.2	<50.2	50.2	
Diesel Range Organics (DRO)		<50.1	50.1	<50.1	50.1	<50.3	50.3	<50.2	50.2	<50.2	50.2	
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1	<50.1	50.1	<50.3	50.3	<50.2	50.2	<50.2	50.2	
Total GRO-DRO		<50.1	50.1	<50.1	50.1	<50.3	50.3	<50.2	50.2	<50.2	50.2	
Total TPH		<50.1	50.1	<50.1	50.1	<50.3	50.3	<50.2	50.2	<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

Jession VRAMER

Jessica Kramer Project Assistant

Final 1.000

Page 5 of 20



Certificate of Analytical Results 646007

LT Environmental, Inc., Arvada, CO

PLU 89

Sample Id: SW03		Matrix:	Soil		Ι	Date Received:12.	11.19 16.5	0
Lab Sample Id: 646007-001		Date Colle	ected: 12.11	.19 13.50	5	Sample Depth: 0 - 4	4 ft	
Analytical Method: Chloride by El	PA 300				I	Prep Method: E30	0P	
Tech: MAB					ç	% Moisture:		
Analyst: MAB		Date Prep	: 12.11	.19 17.34	I	Basis: We	t Weight	
Seq Number: 3110204							Ū	
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3140	99.6		mg/kg	12.11.19 20.47		10
Analytical Method: TPH by SW80 Tech: DTH Analyst: DTH	15 Mod	Date Prep	: 12.11	.19 17.00	H 9 H	Prep Method: SW % Moisture: Basis: Wet	8015P t Weight	
Seq Number: 3110251								
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1		mg/kg	12.11.19 22.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1		mg/kg	12.11.19 22.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1		mg/kg	12.11.19 22.02	U	1
Total GRO-DRO	PHC628	<50.1	50.1		mg/kg	12.11.19 22.02	U	1
Total TPH	PHC635	<50.1	50.1		mg/kg	12.11.19 22.02	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	114	%	70-135	12.11.19 22.02		
o-Terphenyl		84-15-1	126	%	70-135	12.11.19 22.02		

Certificate of Analytical Results 646007

LT Environmental, Inc., Arvada, CO

PLU 89

Sample Id:SW03Lab Sample Id:646007-001	Matrix: Soil Date Collected: 12.11.19 13.50	Date Received:12.11.19 16.50 Sample Depth: 0 - 4 ft
Analytical Method:BTEX by EPA 80Tech:MABAnalyst:MABSeq Number:3110219	21B Date Prep: 12.11.19 17.00	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	12.12.19 03.25	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	12.12.19 03.25	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	12.12.19 03.25	U	1
m,p-Xylenes	179601-23-1	< 0.00399	0.00399		mg/kg	12.12.19 03.25	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	12.12.19 03.25	U	1
Total Xylenes	1330-20-7	< 0.00200	0.00200		mg/kg	12.12.19 03.25	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	12.12.19 03.25	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	104	%	70-130	12.12.19 03.25		
4-Bromofluorobenzene		460-00-4	113	%	70-130	12.12.19 03.25		



Certificate of Analytical Results 646007

LT Environmental, Inc., Arvada, CO

PLU 89

Sample Id: SW04		Matrix:	Soil		Ι	Date Received:12.	11.19 16.5	0
Lab Sample Id: 646007-002		Date Coll	ected: 12.11	.19 14.25	S	Sample Depth: 0 - 4	4 ft	
Analytical Method: Chloride by E	PA 300				I	Prep Method: E30)0P	
Tech: MAB					Ģ	% Moisture:		
Analyst: MAB		Date Pren	: 12.11	.19 17.34	I	Basis: We	t Weight	
Seq Number: 3110204		Date 110p	•				U	
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6180	99.2		mg/kg	12.11.19 20.54		10
Analytical Method: TPH by SW80 Tech: DTH Analyst: DTH Seq Number: 3110251	015 Mod	Date Prep	: 12.11	.19 17.00	H 9 H	Prep Method: SW % Moisture: Basis: Wet	8015P t Weight	
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1		mg/kg	12.11.19 22.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1		mg/kg	12.11.19 22.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1		mg/kg	12.11.19 22.42	U	1
Total GRO-DRO	PHC628	<50.1	50.1		mg/kg	12.11.19 22.42	U	1
Total TPH	PHC635	<50.1	50.1		mg/kg	12.11.19 22.42	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	105	%	70-135	12.11.19 22.42		
o-Terphenyl		84-15-1	107	%	70-135	12.11.19 22.42		

Certificate of Analytical Results 646007

LT Environmental, Inc., Arvada, CO

PLU 89

Sample Id:	SW04		Matrix:	Soil	Date Received	1:12.11.19 16.50
Lab Sample Io	l: 646007-002		Date Collected	1: 12.11.19 14.25	Sample Depth	:0 - 4 ft
Analytical Me	thod: BTEX by EPA 8021	В			Prep Method:	SW5030B
Tech:	MAB				% Moisture:	
Analyst:	MAB		Date Prep:	12.11.19 17.00	Basis:	Wet Weight
Seq Number:	3110219					
D (D			

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	12.12.19 03.45	U	1
Toluene	108-88-3	0.00400	0.00200		mg/kg	12.12.19 03.45		1
Ethylbenzene	100-41-4	0.00224	0.00200		mg/kg	12.12.19 03.45		1
m,p-Xylenes	179601-23-1	0.0102	0.00399		mg/kg	12.12.19 03.45		1
o-Xylene	95-47-6	0.00408	0.00200		mg/kg	12.12.19 03.45		1
Total Xylenes	1330-20-7	0.0143	0.00200		mg/kg	12.12.19 03.45		1
Total BTEX		0.0205	0.00200		mg/kg	12.12.19 03.45		1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	104	%	70-130	12.12.19 03.45		
4-Bromofluorobenzene		460-00-4	122	%	70-130	12.12.19 03.45		

Certificate of Analytical Results 646007

LT Environmental, Inc., Arvada, CO

PLU 89

Sample Id: SW05		Matrix:	Matrix: Soil			Date Received:12.11.19 16.50			
Lab Sample Id: 646007-003		Date Coll	ected: 12.11	.19 14.14	S	Sample Depth: 0 - 4	4 ft		
Analytical Method: Chloride by El	PA 300				F	Prep Method: E30	0P		
Tech: MAB					9	6 Moisture:			
Analyst: MAB		Date Prep	: 12.11	.19 17.34	F	Basis: Wet	Weight		
Seq Number: 3110204		_F					U		
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil	
Chloride	16887-00-6	6180	99.0		mg/kg	12.11.19 21.00		10	
Analytical Method: TPH by SW80 Tech: DTH Analyst: DTH	15 Mod	Date Prep	: 12.11	.19 17.00	F 9 F	Prep Method: SW 6 Moisture: Basis: Wet	8015P t Weight		
Seq Number: 3110251	Cos Number	Dogult	DI		T	An alaria Data		D'1	
	Cas Number	Kesuit	KL		Units	Analysis Date	Flag	Dil	
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3		mg/kg	12.11.19 22.42	U	1	
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3		mg/kg	12.11.19 22.42	U	1	
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3		mg/kg	12.11.19 22.42	U	1	
Total GRO-DRO	PHC628	<50.3	50.3		mg/kg	12.11.19 22.42	U	1	
Total TPH	PHC635	<50.3	50.3		mg/kg	12.11.19 22.42	U	1	
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag		
1-Chlorooctane		111-85-3	131	%	70-135	12.11.19 22.42			
o-Terphenyl		84-15-1	140	%	70-135	12 11 19 22 42	**		

Certificate of Analytical Results 646007

LT Environmental, Inc., Arvada, CO

PLU 89

Sample Id: Lab Sample Id	SW05 : 646007-003	Matrix: Date Collected	Soil : 12.11.19 14.14	Date Received Sample Depth	:12.11.19 16.50 :0 - 4 ft
Analytical Met Tech:	hod: BTEX by EPA 8021B MAB			Prep Method: % Moisture:	SW5030B
Analyst: Seq Number:	MAB 3110219	Date Prep:	12.11.19 17.00	Basis:	Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00196	0.00196		mg/kg	12.12.19 04.04	U	1
Toluene	108-88-3	< 0.00196	0.00196		mg/kg	12.12.19 04.04	U	1
Ethylbenzene	100-41-4	< 0.00196	0.00196		mg/kg	12.12.19 04.04	U	1
m,p-Xylenes	179601-23-1	< 0.00393	0.00393		mg/kg	12.12.19 04.04	U	1
o-Xylene	95-47-6	< 0.00196	0.00196		mg/kg	12.12.19 04.04	U	1
Total Xylenes	1330-20-7	< 0.00196	0.00196		mg/kg	12.12.19 04.04	U	1
Total BTEX		< 0.00196	0.00196		mg/kg	12.12.19 04.04	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	102	%	70-130	12.12.19 04.04		
4-Bromofluorobenzene		460-00-4	123	%	70-130	12.12.19 04.04		



Certificate of Analytical Results 646007

LT Environmental, Inc., Arvada, CO

PLU 89

Sample Id:	FS04		Matrix:	Soil		Ι	Date Received:12.	1.19 16.5	0
Lab Sample Id:	646007-004		Date Colle	ected: 12.11	.19 14.00	5	Sample Depth: 4 ft		
Analytical Meth	nod: Chloride by EP	A 300				I	Prep Method: E30	0P	
Tech:	MAB					Ģ	% Moisture:		
Analyst:	MAB		Date Prep	: 12.11	.19 17.34	I	Basis: We	t Weight	
Seq Number:	3110204		r					U	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	2630	83.9		mg/kg	12.11.19 21.06		10
Analytical Meth Tech: Analyst: Seq Number:	nod: TPH by SW801 DTH DTH 3110251	15 Mod	Date Prep	: 12.11	.19 17.00	H 9 H	Prep Method: SW % Moisture: Basis: Wet	8015P t Weight	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range H	ydrocarbons (GRO)	PHC610	<50.2	50.2		mg/kg	12.11.19 23.02	U	1
Diesel Range Orga	unics (DRO)	C10C28DRO	<50.2	50.2		mg/kg	12.11.19 23.02	U	1
Motor Oil Range Hyd	drocarbons (MRO)	PHCG2835	<50.2	50.2		mg/kg	12.11.19 23.02	U	1
Total GRO-DRO		PHC628	<50.2	50.2		mg/kg	12.11.19 23.02	U	1
Total TPH		PHC635	<50.2	50.2		mg/kg	12.11.19 23.02	U	1
Surrogate			Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chloroocta	ane		111-85-3	110	%	70-135	12.11.19 23.02		
o-Terphenyl			84-15-1	114	%	70-135	12.11.19 23.02		

Page 12 of 20

Certificate of Analytical Results 646007

LT Environmental, Inc., Arvada, CO

PLU 89

Sample Id: Lab Sample Id	FS04 1: 646007-004		Matrix: Date Collected	Soil : 12.11.19 14.00	Date Received:12.11.19 16.50 Sample Depth:4 ft			
Analytical Me Tech:	thod: BTEX by EPA 8021 MAB	В			Prep Method: % Moisture:	SW5030B		
Analyst:	MAB		Date Prep:	12.11.19 17.00	Basis:	Wet Weight		
Seq Number:	3110219							
D (Decult D					

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00198	0.00198		mg/kg	12.12.19 04.23	U	1
Toluene	108-88-3	< 0.00198	0.00198		mg/kg	12.12.19 04.23	U	1
Ethylbenzene	100-41-4	< 0.00198	0.00198		mg/kg	12.12.19 04.23	U	1
m,p-Xylenes	179601-23-1	< 0.00397	0.00397		mg/kg	12.12.19 04.23	U	1
o-Xylene	95-47-6	< 0.00198	0.00198		mg/kg	12.12.19 04.23	U	1
Total Xylenes	1330-20-7	< 0.00198	0.00198		mg/kg	12.12.19 04.23	U	1
Total BTEX		< 0.00198	0.00198		mg/kg	12.12.19 04.23	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	112	%	70-130	12.12.19 04.23		
1,4-Difluorobenzene		540-36-3	100	%	70-130	12.12.19 04.23		

Certificate of Analytical Results 646007

LT Environmental, Inc., Arvada, CO

PLU 89

Sample Id:	FS05		Matrix:	Soil		Ι	Date Received:12.	1.19 16.5	0
Lab Sample Id:	646007-005		Date Coll	ected: 12.11	.19 14.02	S	Sample Depth: 4 ft		
Analytical Meth	nod: Chloride by EP	PA 300				I	Prep Method: E30	0P	
Tech:	MAB					ç	% Moisture:		
Analyst:	MAB		Date Pren	: 12.11	.19 17.34	Ι	Basis: We	t Weight	
Seq Number:	3110204							Ū	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	4300	100		mg/kg	12.11.19 21.12		10
Analytical Meth Tech: Analyst: Seq Number:	nod: TPH by SW801 DTH DTH 3110251	15 Mod	Date Prep	: 12.11	.19 17.00	H g H	Prep Method: SW % Moisture: Basis: Wet	8015P t Weight	
Parameter		Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hy	ydrocarbons (GRO)	PHC610	<50.2	50.2		mg/kg	12.11.19 23.02	U	1
Diesel Range Orga	unics (DRO)	C10C28DRO	<50.2	50.2		mg/kg	12.11.19 23.02	U	1
Motor Oil Range Hyd	irocarbons (MRO)	PHCG2835	<50.2	50.2		mg/kg	12.11.19 23.02	U	1
Total GRO-DRO		PHC628	<50.2	50.2		mg/kg	12.11.19 23.02	U	1
Total TPH		PHC635	<50.2	50.2		mg/kg	12.11.19 23.02	U	1
Surrogate			Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chloroocta	ine		111-85-3	125	%	70-135	12.11.19 23.02		
o-Terphenyl			84-15-1	136	%	70-135	12.11.19 23.02	**	

Certificate of Analytical Results 646007

LT Environmental, Inc., Arvada, CO

PLU 89

Sample Id: FS05 Lab Sample Id: 646007-005	Matrix:	Soil	Date Received	:12.11.19 16.50
	Date Collected	: 12.11.19 14.02	Sample Depth	:4 ft
Analytical Method:BTEX by EPA 8021BTech:MABAnalyst:MABSeq Number:3110219	Date Prep:	12.11.19 17.00	Prep Method: % Moisture: Basis:	SW5030B Wet Weight

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	12.12.19 04.42	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	12.12.19 04.42	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	12.12.19 04.42	U	1
m,p-Xylenes	179601-23-1	< 0.00399	0.00399		mg/kg	12.12.19 04.42	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	12.12.19 04.42	U	1
Total Xylenes	1330-20-7	< 0.00200	0.00200		mg/kg	12.12.19 04.42	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	12.12.19 04.42	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	120	%	70-130	12.12.19 04.42		
1,4-Difluorobenzene		540-36-3	104	%	70-130	12.12.19 04.42		



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 Clie	nt Sample	BLK	Method Blank	
BKS/LCS	Blank Spike/Laboratory Control Sample	BKSD/LCSD	Blank Spike Duplicate/Laboration	atory 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 89

Analytical Method:	Chloride by EPA 30)0						Pı	ep Metho	od: E30	0P	
Seq Number:	3110204			Matrix:	Solid				Date Pre	ep: 12.1	1.19	
MB Sample Id:	7692228-1-BLK		LCS Sar	nple Id:	7692228-2	I-BKS		LCS	D Sample	e Id: 769	2228-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	Flag
Chloride	<10.0	250	265	106	263	105	90-110	1	20	mg/kg	12.11.19 18:32	

Analytical Method:	Chloride by EPA 300								Prep Method: E300P						
Seq Number:	3110204				Matrix:	Soil				Date Pr	ep: 12.1	12.11.19			
Parent Sample Id:	645968-001 MS Sample Id: 645968-001 S MSD Sample Id:								e Id: 645	645968-001 SD					
Parameter		Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	Flag		
Chloride		248	200	456	104	461	106	90-110	1	20	mg/kg	12.11.19 18:49			

Analytical Method:	Chloride by EPA 300								Prep Method: E300P						
Seq Number:	3110204			Matrix:	Soil			Date Prep: 12.11.19							
Parent Sample Id:	646001-002 MS Sample Id: 646001-002 S							MSD Sample Id: 646001-002 SI							
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	Flag			
Chloride	233	200	428	98	417	93	90-110	3	20	mg/kg	12.11.19 20:04				

Analytical Method:	TPH by S	W8015 M	od						Prep Method: SW8015P									
Seq Number:	3110251				Matrix:	Solid		Date Prep: 12.11.19										
MB Sample Id:	7692245-1	-BLK		LCS Sar	nple Id:	7692245-	1-BKS		LCSD Sample Id: 7692245-1-BSD									
Parameter		MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag					
Gasoline Range Hydrocarbo	ons (GRO)	< 50.0	1000	1090	109	963	96	70-135	12	35	mg/kg	12.11.19 21:41						
Diesel Range Organics (DRO)	<50.0	1000	954	95	1010	101	70-135	6	35	mg/kg	12.11.19 21:41						
Surrogate		MB %Rec	MB Flag	L %	CS Rec	LCS Flag	LCSI %Re) LCS c Flag	D I g	Limits	Units	Analysis Date						
1-Chlorooctane		96		1	14		117		7	0-135	%	12.11.19 21:41						
o-Terphenyl		101		1	11		112		7	0-135	%	12.11.19 21:41						

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8	015P	
Seq Number:	3110251	Matrix:	Solid	Date Prep:	12.1	1.19	
		MB Sample Id:	7692245-1-BLK				
Parameter		MB Result		τ	Jnits	Analysis Date	Flag
Motor Oil Range Hydrocarb	ons (MRO)	<50.0		n	ng/kg	12.11.19 21:41	

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

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Final 1.000



LT Environmental, Inc.

PLU 89

Analytical Method:	TPH by SV	V8015 M	lod						F	rep Method	l: SW	8015P					
Seq Number:	3110251				Matrix:	Soil		Date Prep: 12.11.19									
Parent Sample Id:	646007-002	1		MS Sar	nple Id:	646007-00	01 S		MS	D Sample	ld: 646	007-001 SD					
Parameter		Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag				
Gasoline Range Hydrocarbo	ons (GRO)	<49.8	996	909	91	1080	108	70-135	17	35	mg/kg	12.11.19 22:22					
Diesel Range Organics ((DRO)	<49.8	996	827	83	982	98	70-135	17	35	mg/kg	12.11.19 22:22					
Surrogate				N %	AS Rec	MS Flag	MSD %Ree	o MSE c Flag) I	limits	Units	Analysis Date					
1-Chlorooctane				1	02		119		7	0-135	%	12.11.19 22:22					
o-Terphenyl				Ģ	99		117		7	0-135	%	12.11.19 22:22					

Analytical Method:	Det: BTEX by EPA 8021B Prep Method: SW5030B														
Seq Number:	3110219			Matrix:	Solid		Date Prep: 12.11.19								
MB Sample Id:	7692236-1-BLK		LCS San	nple Id:	7692236-	1-BKS		LCSD Sample Id: 7692236-1-BS							
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPI	ORPD Lim	it Units	Analysis Date	Flag			
Benzene	< 0.00200	0.100	0.0933	93	0.0909	91	70-130	3	35	mg/kg	12.12.19 01:43				
Toluene	< 0.00200	0.100	0.0951	95	0.0931	93	70-130	2	35	mg/kg	12.12.19 01:43				
Ethylbenzene	< 0.00200	0.100	0.0935	94	0.0919	92	71-129	2	35	mg/kg	12.12.19 01:43				
m,p-Xylenes	< 0.00400	0.200	0.198	99	0.194	97	70-135	2	35	mg/kg	12.12.19 01:43				
o-Xylene	< 0.00200	0.100	0.101	101	0.0995	100	71-133	1	35	mg/kg	12.12.19 01:43				
Surrogate	MB %Rec	MB Flag	L/ %	CS Rec	LCS Flag	LCSE %Rec) LCS 2 Fla	D 1 g	Limits	Units	Analysis Date				
1,4-Difluorobenzene	101		1	04		103		,	70-130	%	12.12.19 01:43				
4-Bromofluorobenzene	109		1	19		121		,	70-130	%	12.12.19 01:43				

Analytical Method:	BTEX by EPA 802	1B			Prep Method: SW5030B										
Seq Number:	3110219]	Matrix:	Soil	Date Prep: 12.11.19									
Parent Sample Id:	646007-001		MS San	nple Id:	646007-00	01 S		MSD Sample Id: 646007-001 SD							
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	Flag			
Benzene	< 0.00198	0.0992	0.0896	90	0.0942	95	70-130	5	35	mg/kg	12.12.19 02:22				
Toluene	0.00103	0.0992	0.0893	89	0.0954	95	70-130	7	35	mg/kg	12.12.19 02:22				
Ethylbenzene	0.000729	0.0992	0.0850	85	0.0907	91	71-129	6	35	mg/kg	12.12.19 02:22				
m,p-Xylenes	0.00222	0.198	0.179	89	0.194	96	70-135	8	35	mg/kg	12.12.19 02:22				
o-Xylene	0.00131	0.0992	0.0912	91	0.0986	98	71-133	8	35	mg/kg	12.12.19 02:22				
Surrogate			N %]	1S Rec	MS Flag	MSD %Re	o MSI c Flag) I g	Limits	Units	Analysis Date				
1,4-Difluorobenzene			1	04		105		7	0-130	%	12.12.19 02:22				
4-Bromofluorobenzene			1	21		119		7	0-130	%	12.12.19 02:22				

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] 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

3 / ×	· 4atal/1	Refinquished by:	Notice: Signature of this dc of service. Xenco will be lia of Xenco. A minimum chan	Total 200.7 / 60 Circle Method(s)					/	F505	FSOY	SW05	SWOH	SW03	Sample Identi	Sample Custody Seals	Cooler Custody Seals:	Received Intact:	Temperature (°C):	SAMPLE RECEI	Sampler's Name:	PO#	Project Number:	Project Name:	Phone: (City, State ZIP: 1	Address:	Company Name: 1	Project Manager:
4		(Signature) Received b	coument and relinquishment of samples constr able only for the cost of samples and shall not ge of \$75.00 will be applied to each project and	10 200.8 / 6020: 8RCR) and Metal(s) to be analyzed T		1 1	+arth	ALIN		5 12/11/19	S 12/11/19	S 12/11/19	S 12/11/19	S 12/11/19	ification Matrix Date Sampled	3: Yes No N/A Total Contain	Yes ANO N/A Correction Fa	(Yes No	DiA (II	PT Temp Blank: Yes No	Fatima Smith	eddy county	012919246	PLU 89	(432) 236-3849	Midland, TX 79705	3300 North A Street	LT Environmental, Inc., Permian Of	Dan Moir
		y: (Signature)	tutes a valid purchase order fro assume any responsibility for a la charge of \$5 for each sample	A 13PPM Texas 11 CLP / SPLP 6010: 8R(1402 41	1400 41	1414 0-4'	1425 0-41	1350 0-41	Time Depth Sampled	ers: 5	ctor: -0-2	TN MUOT	nermometer ID	Wet Ice: (Yes No	Due Date:	Rush: 24 hrs	Routine:	Turn Around	Email: fsmith@ltenv	City, State ZIF	Address:	fice Company Nar	Bill to: (if differe
2/11/19 cc 4	alpha 16:50 2	Date/Time	m client company to Xenco, Its ny losses or expenses incurre submitted to Xenco, but not a	Al Sb As Ba Be B CRA Sb As Ba Be (/					- × × ×	- ×××	- X X X	- XXX	- X X	Number TPH (El BTEX (I Chlorid	er of PA 8 EPA le (El	6 Co 015) 0=80 PA 3	onta 021)	iner	S					v.com, dmoir@ltenv.co	Carlsbad, NM 8822	3104 E Greene St	ne: XTO Energy, Inc.	nt) Kyle Littrell
		Relinquished by: (Signa	s attiliates and subcontractors. It d by the client if such losses are of analyzed. These terms will be enfo	Cd Ca Cr Co Cu Fe F Cd Cr Co Cu Pb Mn M																				ANALYSIS REQ	В	20			
		ature) Received by: (Signa	assigns standard terms and condutions due to circumstances beyond the control orced unless previously negotiated.	9b Mg Mn Mo Ni K Se Ag SiQ No Ni Se Ag TI U																				UEST	Deliverables: EDD AD	Reporting:Level H F	State of Project:	Program: UST/PST PRP Br	Work Ord
		ture) Date/Time		D2 Na Sr TI Sn U V Zn 1631/245.1/7470 /7471:Ht											Sample Comments	lab, if received by 4:30pm	TAT starts the day recevied by the							Work Order Notes	haPT Other:	ST/USF TRRP LeveHV	נ	ownfields RRC Superfund	er Comments

XENCO

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300, San Antonio, TX (210) 509-3334

Chain of Custody

Work Order No: UUGODT

Midland, TX (432) 704-5440, EL Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296 Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 988-3199, Phoenix, AZ (480) 355-0900

XENCO Laboratories Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc. Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 12/11/2019 04:50:00 PM Temperature Measuring device used : T-NM-007 Work Order #: 646007 Sample Receipt Checklist Comments

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

 Checklist reviewed by:
 Jessica WAMER

 Jessica Kramer

Date: 12/11/2019

Date: 12/12/2019