

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

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

JUL 20 2018

Form C-141
Revised April 3, 2017

DISTRICT II-ARTESIA O.C.D.

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

Release Notification and Corrective Action

NAB1820738071 OPERATOR ☒ Initial Report ☐ Final Report

Name of Company XTO Energy BOPCO NAD137	Contact Jeremy Graham
Address 6401 Holiday Hill Rd. Midland, TX 79707	Telephone No. 817-647-5681
Facility Name PLU 23 DTD 108H Lease	Facility Type Location

Surface Owner BLM	Mineral Owner BLM	API No. 3001542452
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Poker Lake Ut. 23 DTD #108H LOCATION OF RELEASE PLU 23 DTD 108H

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	23	24 S.	30 E	590	N	1020	E	Eddy

Latitude 32.209016* Longitude 103.846272* NAD83

NATURE OF RELEASE

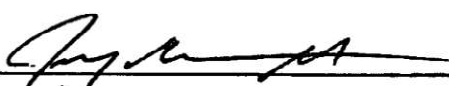
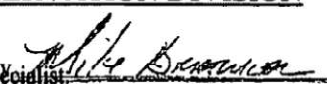
Type of Release Oil base mud (OBM)	Volume of Release 37.6415	Volume Recovered 35.5 6415
Source of Release	Date and Hour of Occurrence	Date and Hour of Discovery
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom?	
By Whom? Jeremy Graham	Date and Hour 6/22/18 - 5:50 a.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

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

Describe Cause of Problem and Remedial Action Taken.*
Overflow of the trip tank

Describe Area Affected and Cleanup Action Taken.* OBM was contained on the pad. Affected area was cleaned up by vac truck. Once RP# is given, final clean up measures will be taken by XTO Energy to complete remediation.

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

Signature: 		OIL CONSERVATION DIVISION	
Printed Name: Jeremy Graham		Approved by Environmental Specialist: 	
Title: Drilling SHE Manager		Approval Date: 7/20/18	Expiration Date: N/A
E-mail Address: jeremy-graham@xtoenergy.com		Conditions of Approval: See attached	
Date: 6/22/18	Phone: 817 647 5681	Attached: ARP-4870	

* Attach Additional Sheets If Necessary

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State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	
District RP	2RP-4870
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: XTO Energy, Inc	OGRID: 5380
Contact Name: Kyle Littrell	Contact Telephone: (432)-221-7331
Contact email: Kyle_Littrell@xtoenergy.com	Incident #: 2RP-4870
Contact mailing address: 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude 32.209016 Longitude -103.846272
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Poker Lake Unit 23 Dog Town Draw 108H Lease	Site Type: Production Well Facility
Date Release Discovered: 6/24/2018	API# (if applicable): 30-015-42452

Unit Letter	Section	Township	Range	County
A	23	24S	30E	Eddy

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls):	Volume Recovered (bbls):
☐ Produced Water	Volume Released (bbls):	Volume Recovered (bbls):
	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) Oil based drilling mud	Volume/Weight Released (provide units) 37 bbls	Volume/Weight Recovered (provide units) 35.5 bbls

Cause of Release

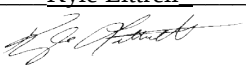
Oil based drilling mud overflowed the trip tank. All released fluids were contained on the well pad.

Incident ID	
District RP	2RP-4870
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Release volume was greater than 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? By Jeremy Graham to NMOCD and BLM on June 22, 2018, at 5:50 am.	

Initial Response

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

☒ The source of the release has been stopped. ☒ The impacted area has been secured to protect human health and the environment. ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. ☒ All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: N/A	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Kyle Littrell</u>	Title: <u>SH&E Supervisor</u>
Signature: 	Date: <u>11-1-2019</u>
email: <u>Kyle_Littrell@xtoenergy.com</u>	Telephone: <u>432-221-7331</u>
<u>OCD Only</u> Received by: _____ Date: _____	

Incident ID	
District RP	2RP-4870
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
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☒ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

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

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	
District RP	2RP-4870
Facility ID	
Application ID	

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Printed Name: Kyle Littrell Title: SH&E SupervisorSignature:  Date: 11-1-2019email: Kyle Littrell@xtoenergy.com Telephone: (432)-221-7331**OCD Only**Received by: Jocelyn Harimon Date: 03/31/2023

Incident ID	
District RP	2RP-4870
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Application ID	

Remediation Plan

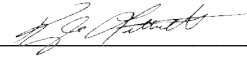
Remediation Plan Checklist: Each of the following items must be included in the plan.

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

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

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

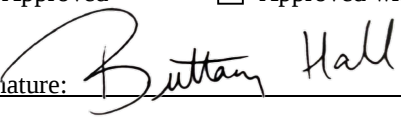
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public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

Printed Name: Kyle Littrell Title: SH&E Supervisor
Signature:  Date: 11-1-2019
email: Kyle_Littrell@xtoenergy.com Telephone: (432)-221-7331

OCD Only

Received by: Jocelyn Harimon Date: 03/31/2023

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

Signature:  Date: 6/29/2023

ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS



Analytical Report 629503

for
LT Environmental, Inc.

Project Manager: Ashley Ager

PLU 23DTD 1084

012919134

05-JUL-19

Collected By: Client



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

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

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

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



05-JUL-19

Project Manager: **Ashley Ager**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **629503**

PLU 23DTD 1084

Project Address: Eddy County

Ashley Ager:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 629503. 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. 629503 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

A handwritten signature in black ink that reads 'Kalei Stout'.

Kalei Stout

Carlsbad Laboratory Director

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 629503****LT Environmental, Inc., Arvada, CO**

PLU 23DTD 1084

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	06-26-19 09:35	0.5 ft	629503-001
PH01A	S	06-26-19 15:15	2.0 ft	629503-002
PH01B	S	06-26-19 15:23	6.0 ft	629503-003
PH02	S	06-26-19 10:00	0.5 ft	629503-004
PH02A	S	06-27-19 11:10	4.5 ft	629503-005
PH03	S	06-26-19 16:02	4.5 ft	629503-006
PH03A	S	06-26-19 16:24	8.0 ft	629503-007
PH04	S	06-27-19 09:45	0.5 ft	629503-008
PH04A	S	06-27-19 09:55	4.5 ft	629503-009
PH05	S	06-27-19 11:50	0.5 ft	629503-010
PH05A	S	06-27-19 12:00	4.5 ft	629503-011
PH06	S	06-27-19 12:40	0.5 ft	629503-012
PH06A	S	06-27-19 12:50	4.5 ft	629503-013
PH07	S	06-27-19 13:57	3.0 ft	629503-014
PH07A	S	06-27-19 14:00	4.5 ft	629503-015



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 23DTD 1084

Project ID: 012919134
Work Order Number(s): 629503

Report Date: 05-JUL-19
Date Received: 06/28/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3094320 TPH by SW8015 Mod

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

Samples affected are: 629503-010,629503-001.

Batch: LBA-3094399 BTEX by EPA 8021B

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

Batch: LBA-3094507 BTEX by EPA 8021B

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



Certificate of Analysis Summary 629503

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23DTD 1084

Project Id: 012919134

Contact: Ashley Ager

Project Location: Eddy County

Date Received in Lab: Fri Jun-28-19 12:00 pm

Report Date: 05-JUL-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	629503-001	629503-002	629503-003	629503-004	629503-005	629503-006
	<i>Field Id:</i>	PH01	PH01A	PH01B	PH02	PH02A	PH03
	<i>Depth:</i>	0.5- ft	2.0- ft	6.0- ft	0.5- ft	4.5- ft	4.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-26-19 09:35	Jun-26-19 15:15	Jun-26-19 15:23	Jun-26-19 10:00	Jun-27-19 11:10	Jun-26-19 16:02
BTEX by EPA 8021B SUB: T104704400-18-16	<i>Extracted:</i>	Jul-02-19 11:00	Jul-02-19 11:00	Jul-02-19 11:00	Jul-02-19 11:00	Jul-02-19 11:00	Jul-02-19 14:00
	<i>Analyzed:</i>	Jul-04-19 05:43	Jul-04-19 06:06	Jul-04-19 06:29	Jul-04-19 06:52	Jul-04-19 07:15	Jul-03-19 14:28
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00197 0.00197
Toluene		<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00197 0.00197
Ethylbenzene		<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00197 0.00197
m,p-Xylenes		<0.00400 0.00400	<0.00398 0.00398	<0.00403 0.00403	<0.00398 0.00398	<0.00400 0.00400	<0.00394 0.00394
o-Xylene		<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00197 0.00197
Total Xylenes		<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00197 0.00197
Total BTEX		<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00197 0.00197
Chloride by EPA 300 SUB: T104704400-18-16	<i>Extracted:</i>	Jul-01-19 15:30	Jul-01-19 15:30	Jul-01-19 15:30	Jul-01-19 15:30	Jul-01-19 15:30	Jul-01-19 15:30
	<i>Analyzed:</i>	Jul-01-19 20:00	Jul-01-19 20:05	Jul-01-19 20:10	Jul-01-19 20:25	Jul-01-19 20:29	Jul-01-19 20:44
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1330 24.9	22.1 4.99	7.08 4.95	678 5.03	6.16 5.05	210 4.99
TPH by SW8015 Mod SUB: T104704400-18-16	<i>Extracted:</i>	Jul-02-19 07:00	Jul-02-19 07:00	Jul-02-19 07:00	Jul-02-19 07:00	Jul-02-19 07:00	Jul-02-19 07:00
	<i>Analyzed:</i>	Jul-02-19 10:34	Jul-02-19 11:47	Jul-02-19 12:12	Jul-02-19 12:36	Jul-02-19 13:01	Jul-02-19 13:25
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total GRO-DRO		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0

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

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

Kalei Stout
Carlsbad Laboratory Director



Certificate of Analysis Summary 629503

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23DTD 1084

Project Id: 012919134
Contact: Ashley Ager
Project Location: Eddy County

Date Received in Lab: Fri Jun-28-19 12:00 pm
Report Date: 05-JUL-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	629503-007	629503-008	629503-009	629503-010	629503-011	629503-012
	<i>Field Id:</i>	PH03A	PH04	PH04A	PH05	PH05A	PH06
	<i>Depth:</i>	8.0- ft	0.5- ft	4.5- ft	0.5- ft	4.5- ft	0.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-26-19 16:24	Jun-27-19 09:45	Jun-27-19 09:55	Jun-27-19 11:50	Jun-27-19 12:00	Jun-27-19 12:40
BTEX by EPA 8021B SUB: T104704400-18-16	<i>Extracted:</i>	Jul-02-19 14:00	Jul-02-19 14:00	Jul-02-19 14:00	Jul-02-19 14:00	Jul-02-19 14:00	Jul-02-19 14:00
	<i>Analyzed:</i>	Jul-03-19 14:51	Jul-03-19 15:14	Jul-03-19 15:37	Jul-03-19 19:45	Jul-03-19 16:24	Jul-03-19 16:47
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00203 0.00203	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00199 0.00199	<0.00203 0.00203	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00199 0.00199	<0.00203 0.00203	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00398 0.00398	<0.00407 0.00407	<0.00398 0.00398	<0.00400 0.00400	<0.00399 0.00399	<0.00398 0.00398
o-Xylene		<0.00199 0.00199	<0.00203 0.00203	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.00199 0.00199	<0.00203 0.00203	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Total BTEX		<0.00199 0.00199	<0.00203 0.00203	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199
Chloride by EPA 300 SUB: T104704400-18-16	<i>Extracted:</i>	Jul-01-19 15:30	Jul-01-19 15:30	Jul-01-19 15:30	Jul-01-19 15:30	Jul-01-19 15:30	Jul-01-19 15:30
	<i>Analyzed:</i>	Jul-01-19 20:49	Jul-01-19 20:54	Jul-01-19 20:58	Jul-01-19 21:03	Jul-01-19 21:08	Jul-01-19 21:13
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		344 5.04	208 4.95	9.53 4.95	92.6 5.05	173 4.98	315 4.99
TPH by SW8015 Mod SUB: T104704400-18-16	<i>Extracted:</i>	Jul-02-19 07:00	Jul-02-19 07:00	Jul-02-19 07:00	Jul-02-19 07:00	Jul-02-19 07:00	Jul-02-19 07:00
	<i>Analyzed:</i>	Jul-02-19 13:49	Jul-02-19 14:14	Jul-02-19 14:38	Jul-02-19 15:02	Jul-02-19 15:51	Jul-02-19 16:15
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Diesel Range Organics (DRO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Total TPH		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Total GRO-DRO		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0

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Kalei Stout
Carlsbad Laboratory Director



Certificate of Analysis Summary 629503

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23DTD 1084

Project Id: 012919134
Contact: Ashley Ager
Project Location: Eddy County

Date Received in Lab: Fri Jun-28-19 12:00 pm
Report Date: 05-JUL-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	629503-013	629503-014	629503-015			
	<i>Field Id:</i>	PH06A	PH07	PH07A			
	<i>Depth:</i>	4.5- ft	3.0- ft	4.5- ft			
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Jun-27-19 12:50	Jun-27-19 13:57	Jun-27-19 14:00			
BTEX by EPA 8021B SUB: T104704400-18-16	<i>Extracted:</i>	Jul-02-19 14:00	Jul-02-19 14:00	Jul-02-19 14:00			
	<i>Analyzed:</i>	Jul-03-19 17:11	Jul-03-19 17:34	Jul-03-19 17:57			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199			
Toluene		<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199			
Ethylbenzene		<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199			
m,p-Xylenes		<0.00403 0.00403	<0.00398 0.00398	<0.00398 0.00398			
o-Xylene		<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199			
Total Xylenes		<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199			
Total BTEX		<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199			
Chloride by EPA 300 SUB: T104704400-18-16	<i>Extracted:</i>	Jul-01-19 16:00	Jul-01-19 16:00	Jul-01-19 16:00			
	<i>Analyzed:</i>	Jul-01-19 21:42	Jul-01-19 21:57	Jul-01-19 22:01			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		107 4.96	2760 25.0	2160 24.9			
TPH by SW8015 Mod SUB: T104704400-18-16	<i>Extracted:</i>	Jul-02-19 07:00	Jul-02-19 07:00	Jul-02-19 07:00			
	<i>Analyzed:</i>	Jul-02-19 16:40	Jul-02-19 17:04	Jul-02-19 17:29			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0			
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	32.4 15.0			
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0			
Total TPH		<15.0 15.0	<15.0 15.0	32.4 15.0			
Total GRO-DRO		<15.0 15.0	<15.0 15.0	32.4 15.0			

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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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Kalei Stout
Carlsbad Laboratory Director



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH01**
Lab Sample Id: 629503-001

Matrix: Soil
Date Collected: 06.26.19 09.35

Date Received: 06.28.19 12.00
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094159

Date Prep: 07.01.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1330	24.9	mg/kg	07.01.19 20.00		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094320

Date Prep: 07.02.19 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.02.19 10.34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.02.19 10.34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.02.19 10.34	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.02.19 10.34	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.02.19 10.34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	07.02.19 10.34	
o-Terphenyl	84-15-1	67	%	70-135	07.02.19 10.34	**



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH01**
Lab Sample Id: 629503-001

Matrix: Soil
Date Collected: 06.26.19 09.35

Date Received: 06.28.19 12.00
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: FOV

Analyst: AMB

Seq Number: 3094507

Prep Method: SW5030B

% Moisture:

Date Prep: 07.02.19 11.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.04.19 05.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.04.19 05.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.04.19 05.43	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.04.19 05.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.04.19 05.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.04.19 05.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.04.19 05.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	90	%	70-130	07.04.19 05.43		
4-Bromofluorobenzene	460-00-4	112	%	70-130	07.04.19 05.43		



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH01A** Matrix: Soil Date Received: 06.28.19 12.00
 Lab Sample Id: 629503-002 Date Collected: 06.26.19 15.15 Sample Depth: 2.0 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.01.19 15.30 Basis: Wet Weight
 Seq Number: 3094159 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	22.1	4.99	mg/kg	07.01.19 20.05		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 07.02.19 07.00 Basis: Wet Weight
 Seq Number: 3094320 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.02.19 11.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.02.19 11.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	07.02.19 11.47	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	07.02.19 11.47	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	07.02.19 11.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	07.02.19 11.47	
o-Terphenyl	84-15-1	70	%	70-135	07.02.19 11.47	



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH01A**
Lab Sample Id: 629503-002

Matrix: Soil
Date Collected: 06.26.19 15.15

Date Received: 06.28.19 12.00
Sample Depth: 2.0 ft

Analytical Method: BTEX by EPA 8021B

Tech: FOV

Analyst: AMB

Seq Number: 3094507

Prep Method: SW5030B

% Moisture:

Date Prep: 07.02.19 11.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.04.19 06.06	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.04.19 06.06	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.04.19 06.06	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.04.19 06.06	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.04.19 06.06	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.04.19 06.06	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.04.19 06.06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	07.04.19 06.06		
1,4-Difluorobenzene	540-36-3	91	%	70-130	07.04.19 06.06		



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH01B**
Lab Sample Id: 629503-003

Matrix: Soil
Date Collected: 06.26.19 15.23

Date Received: 06.28.19 12.00
Sample Depth: 6.0 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094159

Date Prep: 07.01.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7.08	4.95	mg/kg	07.01.19 20.10		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094320

Date Prep: 07.02.19 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.02.19 12.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.02.19 12.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.02.19 12.12	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.02.19 12.12	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.02.19 12.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	07.02.19 12.12	
o-Terphenyl	84-15-1	72	%	70-135	07.02.19 12.12	



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH01B**
Lab Sample Id: 629503-003

Matrix: Soil
Date Collected: 06.26.19 15.23

Date Received: 06.28.19 12.00
Sample Depth: 6.0 ft

Analytical Method: BTEX by EPA 8021B

Tech: FOV

Analyst: AMB

Seq Number: 3094507

Prep Method: SW5030B

% Moisture:

Date Prep: 07.02.19 11.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.04.19 06.29	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.04.19 06.29	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.04.19 06.29	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	07.04.19 06.29	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.04.19 06.29	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.04.19 06.29	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.04.19 06.29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	89	%	70-130	07.04.19 06.29		
4-Bromofluorobenzene	460-00-4	116	%	70-130	07.04.19 06.29		



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH02**
Lab Sample Id: 629503-004

Matrix: Soil
Date Collected: 06.26.19 10.00

Date Received: 06.28.19 12.00
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094159

Date Prep: 07.01.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	678	5.03	mg/kg	07.01.19 20.25		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094320

Date Prep: 07.02.19 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.02.19 12.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.02.19 12.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.02.19 12.36	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.02.19 12.36	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.02.19 12.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	07.02.19 12.36	
o-Terphenyl	84-15-1	73	%	70-135	07.02.19 12.36	



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH02**
Lab Sample Id: 629503-004

Matrix: Soil
Date Collected: 06.26.19 10.00

Date Received: 06.28.19 12.00
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: FOV

Analyst: AMB

Seq Number: 3094507

Prep Method: SW5030B

% Moisture:

Date Prep: 07.02.19 11.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.04.19 06.52	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.04.19 06.52	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.04.19 06.52	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.04.19 06.52	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.04.19 06.52	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.04.19 06.52	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.04.19 06.52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	89	%	70-130	07.04.19 06.52		
4-Bromofluorobenzene	460-00-4	120	%	70-130	07.04.19 06.52		



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH02A**
Lab Sample Id: 629503-005

Matrix: Soil
Date Collected: 06.27.19 11.10

Date Received: 06.28.19 12.00
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094159

Date Prep: 07.01.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6.16	5.05	mg/kg	07.01.19 20.29		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094320

Date Prep: 07.02.19 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.02.19 13.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.02.19 13.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.02.19 13.01	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.02.19 13.01	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.02.19 13.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	07.02.19 13.01	
o-Terphenyl	84-15-1	70	%	70-135	07.02.19 13.01	



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH02A**
Lab Sample Id: 629503-005

Matrix: Soil
Date Collected: 06.27.19 11.10

Date Received: 06.28.19 12.00
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: FOV

Analyst: AMB

Seq Number: 3094507

Prep Method: SW5030B

% Moisture:

Date Prep: 07.02.19 11.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.04.19 07.15	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.04.19 07.15	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.04.19 07.15	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.04.19 07.15	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.04.19 07.15	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.04.19 07.15	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.04.19 07.15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	07.04.19 07.15		
1,4-Difluorobenzene	540-36-3	92	%	70-130	07.04.19 07.15		



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH03**
Lab Sample Id: 629503-006

Matrix: Soil
Date Collected: 06.26.19 16.02

Date Received: 06.28.19 12.00
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094159

Date Prep: 07.01.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	210	4.99	mg/kg	07.01.19 20.44		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094320

Date Prep: 07.02.19 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.02.19 13.25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.02.19 13.25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.02.19 13.25	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.02.19 13.25	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.02.19 13.25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	07.02.19 13.25	
o-Terphenyl	84-15-1	89	%	70-135	07.02.19 13.25	



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH03**
Lab Sample Id: 629503-006

Matrix: Soil
Date Collected: 06.26.19 16.02

Date Received: 06.28.19 12.00
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: FOV

Analyst: FOV

Seq Number: 3094399

Prep Method: SW5030B

% Moisture:

Date Prep: 07.02.19 14.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00197	0.00197	mg/kg	07.03.19 14.28	U	1
Toluene	108-88-3	<0.00197	0.00197	mg/kg	07.03.19 14.28	U	1
Ethylbenzene	100-41-4	<0.00197	0.00197	mg/kg	07.03.19 14.28	U	1
m,p-Xylenes	179601-23-1	<0.00394	0.00394	mg/kg	07.03.19 14.28	U	1
o-Xylene	95-47-6	<0.00197	0.00197	mg/kg	07.03.19 14.28	U	1
Total Xylenes	1330-20-7	<0.00197	0.00197	mg/kg	07.03.19 14.28	U	1
Total BTEX		<0.00197	0.00197	mg/kg	07.03.19 14.28	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	70-130	07.03.19 14.28		
1,4-Difluorobenzene	540-36-3	99	%	70-130	07.03.19 14.28		



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH03A**
Lab Sample Id: 629503-007

Matrix: Soil
Date Collected: 06.26.19 16.24

Date Received: 06.28.19 12.00
Sample Depth: 8.0 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094159

Date Prep: 07.01.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	344	5.04	mg/kg	07.01.19 20.49		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094320

Date Prep: 07.02.19 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.02.19 13.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.02.19 13.49	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	07.02.19 13.49	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	07.02.19 13.49	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	07.02.19 13.49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	07.02.19 13.49	
o-Terphenyl	84-15-1	73	%	70-135	07.02.19 13.49	



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH03A**
Lab Sample Id: 629503-007

Matrix: Soil
Date Collected: 06.26.19 16.24

Date Received: 06.28.19 12.00
Sample Depth: 8.0 ft

Analytical Method: BTEX by EPA 8021B

Tech: FOV

Analyst: FOV

Seq Number: 3094399

Prep Method: SW5030B

% Moisture:

Date Prep: 07.02.19 14.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.03.19 14.51	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.03.19 14.51	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.03.19 14.51	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.03.19 14.51	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.03.19 14.51	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.03.19 14.51	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.03.19 14.51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	07.03.19 14.51		
4-Bromofluorobenzene	460-00-4	102	%	70-130	07.03.19 14.51		



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH04**
Lab Sample Id: 629503-008

Matrix: Soil
Date Collected: 06.27.19 09.45

Date Received: 06.28.19 12.00
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094159

Date Prep: 07.01.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	208	4.95	mg/kg	07.01.19 20.54		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094320

Date Prep: 07.02.19 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.02.19 14.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.02.19 14.14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.02.19 14.14	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.02.19 14.14	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.02.19 14.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	07.02.19 14.14	
o-Terphenyl	84-15-1	87	%	70-135	07.02.19 14.14	



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH04**
Lab Sample Id: 629503-008

Matrix: Soil
Date Collected: 06.27.19 09.45

Date Received: 06.28.19 12.00
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: FOV

Analyst: FOV

Seq Number: 3094399

Prep Method: SW5030B

% Moisture:

Date Prep: 07.02.19 14.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00203	0.00203	mg/kg	07.03.19 15.14	U	1
Toluene	108-88-3	<0.00203	0.00203	mg/kg	07.03.19 15.14	U	1
Ethylbenzene	100-41-4	<0.00203	0.00203	mg/kg	07.03.19 15.14	U	1
m,p-Xylenes	179601-23-1	<0.00407	0.00407	mg/kg	07.03.19 15.14	U	1
o-Xylene	95-47-6	<0.00203	0.00203	mg/kg	07.03.19 15.14	U	1
Total Xylenes	1330-20-7	<0.00203	0.00203	mg/kg	07.03.19 15.14	U	1
Total BTEX		<0.00203	0.00203	mg/kg	07.03.19 15.14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	07.03.19 15.14		
1,4-Difluorobenzene	540-36-3	99	%	70-130	07.03.19 15.14		



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH04A**
Lab Sample Id: 629503-009

Matrix: Soil
Date Collected: 06.27.19 09.55

Date Received: 06.28.19 12.00
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094159

Date Prep: 07.01.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.53	4.95	mg/kg	07.01.19 20.58		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094320

Date Prep: 07.02.19 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.02.19 14.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.02.19 14.38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.02.19 14.38	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.02.19 14.38	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.02.19 14.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	07.02.19 14.38	
o-Terphenyl	84-15-1	97	%	70-135	07.02.19 14.38	



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH04A**
Lab Sample Id: 629503-009

Matrix: Soil
Date Collected: 06.27.19 09.55

Date Received: 06.28.19 12.00
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: FOV

Analyst: FOV

Seq Number: 3094399

Prep Method: SW5030B

% Moisture:

Date Prep: 07.02.19 14.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.03.19 15.37	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.03.19 15.37	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.03.19 15.37	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.03.19 15.37	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.03.19 15.37	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.03.19 15.37	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.03.19 15.37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	96	%	70-130	07.03.19 15.37		
4-Bromofluorobenzene	460-00-4	105	%	70-130	07.03.19 15.37		



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH05**
Lab Sample Id: 629503-010

Matrix: Soil
Date Collected: 06.27.19 11.50

Date Received: 06.28.19 12.00
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094159

Date Prep: 07.01.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	92.6	5.05	mg/kg	07.01.19 21.03		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094320

Date Prep: 07.02.19 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.02.19 15.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.02.19 15.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.02.19 15.02	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.02.19 15.02	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.02.19 15.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	07.02.19 15.02	
o-Terphenyl	84-15-1	68	%	70-135	07.02.19 15.02	**



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH05**
Lab Sample Id: 629503-010

Matrix: Soil
Date Collected: 06.27.19 11.50

Date Received: 06.28.19 12.00
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: FOV

Analyst: FOV

Seq Number: 3094399

Prep Method: SW5030B

% Moisture:

Date Prep: 07.02.19 14.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.03.19 19.45	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.03.19 19.45	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.03.19 19.45	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.03.19 19.45	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.03.19 19.45	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.03.19 19.45	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.03.19 19.45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	70-130	07.03.19 19.45		
1,4-Difluorobenzene	540-36-3	95	%	70-130	07.03.19 19.45		



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH05A**
Lab Sample Id: 629503-011

Matrix: Soil
Date Collected: 06.27.19 12.00

Date Received: 06.28.19 12.00
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094159

Date Prep: 07.01.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	173	4.98	mg/kg	07.01.19 21.08		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094320

Date Prep: 07.02.19 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.02.19 15.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.02.19 15.51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	07.02.19 15.51	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	07.02.19 15.51	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	07.02.19 15.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	07.02.19 15.51	
o-Terphenyl	84-15-1	91	%	70-135	07.02.19 15.51	



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH05A**
Lab Sample Id: 629503-011

Matrix: Soil
Date Collected: 06.27.19 12.00

Date Received: 06.28.19 12.00
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: FOV

Analyst: FOV

Seq Number: 3094399

Prep Method: SW5030B

% Moisture:

Date Prep: 07.02.19 14.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.03.19 16.24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.03.19 16.24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.03.19 16.24	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.03.19 16.24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.03.19 16.24	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.03.19 16.24	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.03.19 16.24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	07.03.19 16.24		
1,4-Difluorobenzene	540-36-3	96	%	70-130	07.03.19 16.24		



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH06**
Lab Sample Id: 629503-012

Matrix: Soil
Date Collected: 06.27.19 12.40

Date Received: 06.28.19 12.00
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094159

Date Prep: 07.01.19 15.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	315	4.99	mg/kg	07.01.19 21.13		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094320

Date Prep: 07.02.19 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.02.19 16.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.02.19 16.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.02.19 16.15	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.02.19 16.15	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.02.19 16.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	07.02.19 16.15	
o-Terphenyl	84-15-1	79	%	70-135	07.02.19 16.15	



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH06**
Lab Sample Id: 629503-012

Matrix: Soil
Date Collected: 06.27.19 12.40

Date Received: 06.28.19 12.00
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: FOV

Analyst: FOV

Seq Number: 3094399

Prep Method: SW5030B

% Moisture:

Date Prep: 07.02.19 14.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.03.19 16.47	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.03.19 16.47	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.03.19 16.47	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.03.19 16.47	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.03.19 16.47	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.03.19 16.47	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.03.19 16.47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	07.03.19 16.47		
4-Bromofluorobenzene	460-00-4	104	%	70-130	07.03.19 16.47		



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH06A**
Lab Sample Id: 629503-013

Matrix: Soil
Date Collected: 06.27.19 12.50

Date Received: 06.28.19 12.00
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094160

Date Prep: 07.01.19 16.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	107	4.96	mg/kg	07.01.19 21.42		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094320

Date Prep: 07.02.19 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.02.19 16.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.02.19 16.40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.02.19 16.40	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.02.19 16.40	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.02.19 16.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	07.02.19 16.40	
o-Terphenyl	84-15-1	82	%	70-135	07.02.19 16.40	



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH06A**
Lab Sample Id: 629503-013

Matrix: Soil
Date Collected: 06.27.19 12.50

Date Received: 06.28.19 12.00
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: FOV

Analyst: FOV

Seq Number: 3094399

Prep Method: SW5030B

% Moisture:

Date Prep: 07.02.19 14.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.03.19 17.11	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.03.19 17.11	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.03.19 17.11	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	07.03.19 17.11	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.03.19 17.11	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.03.19 17.11	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.03.19 17.11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	07.03.19 17.11		
1,4-Difluorobenzene	540-36-3	96	%	70-130	07.03.19 17.11		



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH07**
Lab Sample Id: 629503-014

Matrix: Soil
Date Collected: 06.27.19 13.57

Date Received: 06.28.19 12.00
Sample Depth: 3.0 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094160

Date Prep: 07.01.19 16.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2760	25.0	mg/kg	07.01.19 21.57		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094320

Date Prep: 07.02.19 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.02.19 17.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.02.19 17.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.02.19 17.04	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.02.19 17.04	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.02.19 17.04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	07.02.19 17.04	
o-Terphenyl	84-15-1	82	%	70-135	07.02.19 17.04	



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH07**
Lab Sample Id: 629503-014

Matrix: Soil
Date Collected: 06.27.19 13.57

Date Received: 06.28.19 12.00
Sample Depth: 3.0 ft

Analytical Method: BTEX by EPA 8021B

Tech: FOV

Analyst: FOV

Seq Number: 3094399

Prep Method: SW5030B

% Moisture:

Date Prep: 07.02.19 14.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.03.19 17.34	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.03.19 17.34	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.03.19 17.34	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.03.19 17.34	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.03.19 17.34	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.03.19 17.34	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.03.19 17.34	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	07.03.19 17.34		
4-Bromofluorobenzene	460-00-4	103	%	70-130	07.03.19 17.34		



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH07A**
Lab Sample Id: 629503-015

Matrix: Soil
Date Collected: 06.27.19 14.00

Date Received: 06.28.19 12.00
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094160

Date Prep: 07.01.19 16.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2160	24.9	mg/kg	07.01.19 22.01		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094320

Date Prep: 07.02.19 07.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.02.19 17.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	32.4	15.0	mg/kg	07.02.19 17.29		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.02.19 17.29	U	1
Total TPH	PHC635	32.4	15.0	mg/kg	07.02.19 17.29		1
Total GRO-DRO	PHC628	32.4	15.0	mg/kg	07.02.19 17.29		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	07.02.19 17.29	
o-Terphenyl	84-15-1	81	%	70-135	07.02.19 17.29	



Certificate of Analytical Results 629503

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH07A**
Lab Sample Id: 629503-015

Matrix: Soil
Date Collected: 06.27.19 14.00

Date Received: 06.28.19 12.00
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: FOV

Analyst: FOV

Seq Number: 3094399

Prep Method: SW5030B

% Moisture:

Date Prep: 07.02.19 14.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.03.19 17.57	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.03.19 17.57	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.03.19 17.57	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.03.19 17.57	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.03.19 17.57	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.03.19 17.57	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.03.19 17.57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	07.03.19 17.57		
4-Bromofluorobenzene	460-00-4	107	%	70-130	07.03.19 17.57		



Flagging Criteria

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

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

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU 23DTD 1084

Analytical Method: Chloride by EPA 300

Seq Number: 3094159

MB Sample Id: 7681138-1-BLK

Matrix: Solid

LCS Sample Id: 7681138-1-BKS

Prep Method: E300P

Date Prep: 07.01.19

LCSD Sample Id: 7681138-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	253	101	252	101	90-110	0	20	mg/kg	07.01.19 18:53	

Analytical Method: Chloride by EPA 300

Seq Number: 3094160

MB Sample Id: 7681162-1-BLK

Matrix: Solid

LCS Sample Id: 7681162-1-BKS

Prep Method: E300P

Date Prep: 07.01.19

LCSD Sample Id: 7681162-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	250	100	251	100	90-110	0	20	mg/kg	07.01.19 21:32	

Analytical Method: Chloride by EPA 300

Seq Number: 3094159

Parent Sample Id: 629498-001

Matrix: Soil

MS Sample Id: 629498-001 S

Prep Method: E300P

Date Prep: 07.01.19

MSD Sample Id: 629498-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	38.4	250	336	119	323	114	90-110	4	20	mg/kg	07.01.19 19:07	X

Analytical Method: Chloride by EPA 300

Seq Number: 3094159

Parent Sample Id: 629503-003

Matrix: Soil

MS Sample Id: 629503-003 S

Prep Method: E300P

Date Prep: 07.01.19

MSD Sample Id: 629503-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	7.08	248	279	110	276	108	90-110	1	20	mg/kg	07.01.19 20:15	

Analytical Method: Chloride by EPA 300

Seq Number: 3094160

Parent Sample Id: 629503-013

Matrix: Soil

MS Sample Id: 629503-013 S

Prep Method: E300P

Date Prep: 07.01.19

MSD Sample Id: 629503-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	107	248	368	105	367	105	90-110	0	20	mg/kg	07.01.19 21:47	

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

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

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

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



LT Environmental, Inc.

PLU 23DTD 1084

Analytical Method: Chloride by EPA 300

Seq Number: 3094160

Parent Sample Id: 629609-003

Matrix: Soil

MS Sample Id: 629609-003 S

Prep Method: E300P

Date Prep: 07.01.19

MSD Sample Id: 629609-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	451	250	690	96	686	94	90-110	1	20	mg/kg	07.01.19 22:55	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3094320

MB Sample Id: 7681277-1-BLK

Matrix: Solid

LCS Sample Id: 7681277-1-BKS

Prep Method: TX1005P

Date Prep: 07.02.19

LCSD Sample Id: 7681277-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	868	87	873	87	70-135	1	20	mg/kg	07.02.19 09:42	
Diesel Range Organics (DRO)	<8.13	1000	903	90	872	87	70-135	3	20	mg/kg	07.02.19 09:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	83		75		74		70-135	%	07.02.19 09:42
o-Terphenyl	73		75		74		70-135	%	07.02.19 09:42

Analytical Method: TPH by SW8015 Mod

Seq Number: 3094320

Parent Sample Id: 629503-001

Matrix: Soil

MS Sample Id: 629503-001 S

Prep Method: TX1005P

Date Prep: 07.02.19

MSD Sample Id: 629503-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	8.94	999	898	89	961	95	70-135	7	20	mg/kg	07.02.19 10:59	
Diesel Range Organics (DRO)	9.76	999	912	90	1030	102	70-135	12	20	mg/kg	07.02.19 10:59	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	84		93		70-135	%	07.02.19 10:59
o-Terphenyl	82		105		70-135	%	07.02.19 10:59

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

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

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

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



LT Environmental, Inc.

PLU 23DTD 1084

Analytical Method: BTEX by EPA 8021B

Seq Number: 3094507

MB Sample Id: 7681347-1-BLK

Matrix: Solid

LCS Sample Id: 7681347-1-BKS

Prep Method: SW5030B

Date Prep: 07.02.19

LCSD Sample Id: 7681347-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0871	88	0.0863	88	70-130	1	35	mg/kg	07.03.19 21:16	
Toluene	<0.00199	0.0994	0.0987	99	0.0994	101	70-130	1	35	mg/kg	07.03.19 21:16	
Ethylbenzene	0.000579	0.0994	0.108	109	0.111	113	70-130	3	35	mg/kg	07.03.19 21:16	
m,p-Xylenes	<0.00101	0.199	0.211	106	0.217	110	70-130	3	35	mg/kg	07.03.19 21:16	
o-Xylene	0.000429	0.0994	0.0979	98	0.102	103	70-130	4	35	mg/kg	07.03.19 21:16	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	86		91		91		70-130	%	07.03.19 21:16
4-Bromofluorobenzene	115		97		99		70-130	%	07.03.19 21:16

Analytical Method: BTEX by EPA 8021B

Seq Number: 3094399

MB Sample Id: 7681348-1-BLK

Matrix: Solid

LCS Sample Id: 7681348-1-BKS

Prep Method: SW5030B

Date Prep: 07.02.19

LCSD Sample Id: 7681348-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0821	82	0.0847	85	70-130	3	35	mg/kg	07.02.19 22:46	
Toluene	0.000535	0.0998	0.0992	99	0.102	102	70-130	3	35	mg/kg	07.02.19 22:46	
Ethylbenzene	<0.000564	0.0998	0.114	114	0.116	116	70-130	2	35	mg/kg	07.02.19 22:46	
m,p-Xylenes	<0.00101	0.200	0.225	113	0.229	115	70-130	2	35	mg/kg	07.02.19 22:46	
o-Xylene	0.000495	0.0998	0.106	106	0.108	108	70-130	2	35	mg/kg	07.02.19 22:46	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		89		89		70-130	%	07.02.19 22:46
4-Bromofluorobenzene	107		108		108		70-130	%	07.02.19 22:46

Analytical Method: BTEX by EPA 8021B

Seq Number: 3094507

Parent Sample Id: 629442-001

Matrix: Soil

MS Sample Id: 629442-001 S

Prep Method: SW5030B

Date Prep: 07.02.19

MSD Sample Id: 629442-001 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	0.0794	79	0.0795	80	70-130	0	35	mg/kg	07.03.19 22:03	
Toluene	<0.00201	0.101	0.0765	76	0.0753	75	70-130	2	35	mg/kg	07.03.19 22:03	
Ethylbenzene	<0.00201	0.101	0.0691	68	0.0684	68	70-130	1	35	mg/kg	07.03.19 22:03	X
m,p-Xylenes	<0.00402	0.201	0.132	66	0.127	64	70-130	4	35	mg/kg	07.03.19 22:03	X
o-Xylene	0.00104	0.101	0.0617	60	0.0597	59	70-130	3	35	mg/kg	07.03.19 22:03	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	94		97		70-130	%	07.03.19 22:03
4-Bromofluorobenzene	98		97		70-130	%	07.03.19 22:03

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

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

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

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



LT Environmental, Inc.

PLU 23DTD 1084

Analytical Method: BTEX by EPA 8021B

Seq Number: 3094399

Parent Sample Id: 628925-001

Matrix: Soil

MS Sample Id: 628925-001 S

Prep Method: SW5030B

Date Prep: 07.02.19

MSD Sample Id: 628925-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00198	0.0990	0.0580	59	0.0768	78	70-130	28	35	mg/kg	07.03.19 12:41	X
Toluene	0.000535	0.0990	0.0872	88	0.0925	93	70-130	6	35	mg/kg	07.03.19 12:41	
Ethylbenzene	<0.00198	0.0990	0.101	102	0.103	104	70-130	2	35	mg/kg	07.03.19 12:41	
m,p-Xylenes	<0.00396	0.198	0.172	87	0.203	103	70-130	17	35	mg/kg	07.03.19 12:41	
o-Xylene	<0.00198	0.0990	0.0875	88	0.0972	99	70-130	11	35	mg/kg	07.03.19 12:41	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	90		91		70-130	%	07.03.19 12:41
4-Bromofluorobenzene	128		117		70-130	%	07.03.19 12:41

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



Chain of Custody

Work Order No:

629503

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Crystal, NM (432) 704-5440
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Page 1 of 2

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littell
Company Name:	LT Environmental	Company Name:	KTD
Address:	3800 North A Street	Address:	3104 E. Greene Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carlsbad NM 88220
Phone:	432 336 3849	Email:	byers@ltenv.com

Project Name:	PLU 33-01D 1084	Turn Around	
Project Number:	02019134	Routine	☐
Project Location:	Eddy County	Rush:	3 days
Sampler's Name:	Anna Byers	Due Date:	
PO #:	28D-4840	Quote #:	

Project Name:	PLU 33-01D 1084	Turn Around	
Project Number:	02019134	Routine	☐
Project Location:	Eddy County	Rush:	3 days
Sampler's Name:	Anna Byers	Due Date:	
PO #:	28D-4840	Quote #:	

Project Name:	PLU 33-01D 1084	Turn Around	
Project Number:	02019134	Routine	☐
Project Location:	Eddy County	Rush:	3 days
Sampler's Name:	Anna Byers	Due Date:	
PO #:	28D-4840	Quote #:	

SAMPLE RECEIPT				Turn Around	
Temperature (°C):	4.0	Temp Blank:	☒ No	Wet Ice:	☒ No
Received In tact:	☒ Yes	Thermometer ID	T-NM-007		
Cooler Custody Seals:	☒ Yes	Correction Factor:	-0.2		
Sample Custody Seals:	☒ Yes	Total Containers:	15		

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Analysis Request	Preservative Codes	Sample Comments
PTH01		S	6/26	0935	0.5'	1	TPH (EPA 8012)	MeOH: Me	
PTH01A		S	6/26	1515	2.0'	1	BTEX (EPA 8021)	None: NO	
PTH01B		S	6/26	1523	6.0'	1	Chloride (EPA 800)	HNO3: HN	
PTH02		S	6/26	1650	0.5'	1		H2SO4: H2	
PTH02A		S	6/27	1110	4.5'	1		HCL: HL	
PTH03		S	6/26	1602	4.5'	1		NaOH: Na	
PTH03A		S	6/26	1624	8.0'	1		Zn Acetate+ NaOH: Zn	
PTH04		S	6/27	0945	0.5'	1			
PTH04A		S	6/27	0955	4.5'	1			
PTH05		S	6/27	1150	0.5'	1			

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	[Signature]	06/28/2019 11:45	[Signature]	[Signature]	06/28/2019 12:00



Chain of Custody

Work Order No: 6029603

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Page 2 of 2

Project Manager:	Dan Mcir	Bill to: (if different)	Kyle Littell
Company Name:	LT Environmental	Company Name:	KTD
Address:	3300 North A Street	Address:	3104 E. Greene Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carlsbad NM 88220
Phone:	432 336 3849	Email:	alyes@ltenv.com

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

Project Name:	PLU 23-STD 1084	Turn Around	☐
Project Number:	02919134	Routine	☐
Project Location:	Eddy County	Rush:	3 days
Sampler's Name:	Anna Byers	Due Date:	
PO #:	282-4840	Quote #:	

SAMPLE RECEIPT		ANALYSIS REQUEST		PRESERVATIVE CODES	
Temperature (°C):	4.0	Thermometer ID	T-NM-004	MeOH: Me	
Received Intact:	☒ Yes ☐ No	Correction Factor:	-0.2	None: NO	
Cooler Custody Seals:	☒ Yes ☐ No	Total Containers:	16	HNO3: HN	
Sample Custody Seals:	☒ Yes ☐ No			H2SO4: H2	
				HCL: HL	
				NaOH: Na	
				Zn Acetate+ NaOH: Zn	
				TAT starts the day received by the lab, if received by 4:00pm	

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Analysis Request	Preservative Codes	Sample Comments
PH05A		S	6/28	1200	4.5'	1	TPH (EPA 8012)		
PH06		S	6/28	1240	0.5'	1	BTEX (EPA 8021)		
PH06A		S	6/28	1250	4.5'	1	EPA Chloride (300)		
PH07		S	6/28	1357	3.0'	1			
PH07A		S	6/28	1400	4.5'	1			

Total 200.7 / 6010 200.8 / 6020:

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

1631 / 245.1 / 7470 / 7471 : Hg

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

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers		6/28/2019 11:14			6/28/2019 12:00



Inter-Office Shipment

Page 1 of 3

IOS Number **42565**

Date/Time: 06/28/19 15:34

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

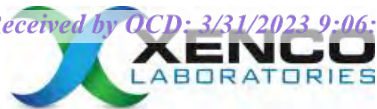
Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.:

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
629503-001	S	PH01	06/26/19 09:35	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/10/19	JKR	GRO-DRO PHCC10C28 PF	
629503-001	S	PH01	06/26/19 09:35	E300_CL	Chloride by EPA 300	07/05/19	12/23/19	JKR	CL	
629503-001	S	PH01	06/26/19 09:35	SW8021B	BTEX by EPA 8021B	07/05/19	07/10/19	JKR	BR4FBZ BZ BZME EBZ X	
629503-002	S	PH01A	06/26/19 15:15	SW8021B	BTEX by EPA 8021B	07/05/19	07/10/19	JKR	BR4FBZ BZ BZME EBZ X	
629503-002	S	PH01A	06/26/19 15:15	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/10/19	JKR	GRO-DRO PHCC10C28 PF	
629503-002	S	PH01A	06/26/19 15:15	E300_CL	Chloride by EPA 300	07/05/19	12/23/19	JKR	CL	
629503-003	S	PH01B	06/26/19 15:23	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/10/19	JKR	GRO-DRO PHCC10C28 PF	
629503-003	S	PH01B	06/26/19 15:23	E300_CL	Chloride by EPA 300	07/05/19	12/23/19	JKR	CL	
629503-003	S	PH01B	06/26/19 15:23	SW8021B	BTEX by EPA 8021B	07/05/19	07/10/19	JKR	BR4FBZ BZ BZME EBZ X	
629503-004	S	PH02	06/26/19 10:00	SW8021B	BTEX by EPA 8021B	07/05/19	07/10/19	JKR	BR4FBZ BZ BZME EBZ X	
629503-004	S	PH02	06/26/19 10:00	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/10/19	JKR	GRO-DRO PHCC10C28 PF	
629503-004	S	PH02	06/26/19 10:00	E300_CL	Chloride by EPA 300	07/05/19	12/23/19	JKR	CL	
629503-005	S	PH02A	06/27/19 11:10	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/11/19	JKR	GRO-DRO PHCC10C28 PF	
629503-005	S	PH02A	06/27/19 11:10	E300_CL	Chloride by EPA 300	07/05/19	12/24/19	JKR	CL	
629503-005	S	PH02A	06/27/19 11:10	SW8021B	BTEX by EPA 8021B	07/05/19	07/11/19	JKR	BR4FBZ BZ BZME EBZ X	
629503-006	S	PH03	06/26/19 16:02	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/10/19	JKR	GRO-DRO PHCC10C28 PF	
629503-006	S	PH03	06/26/19 16:02	E300_CL	Chloride by EPA 300	07/05/19	12/23/19	JKR	CL	
629503-006	S	PH03	06/26/19 16:02	SW8021B	BTEX by EPA 8021B	07/05/19	07/10/19	JKR	BR4FBZ BZ BZME EBZ X	
629503-007	S	PH03A	06/26/19 16:24	E300_CL	Chloride by EPA 300	07/05/19	12/23/19	JKR	CL	
629503-007	S	PH03A	06/26/19 16:24	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/10/19	JKR	GRO-DRO PHCC10C28 PF	
629503-007	S	PH03A	06/26/19 16:24	SW8021B	BTEX by EPA 8021B	07/05/19	07/10/19	JKR	BR4FBZ BZ BZME EBZ X	
629503-008	S	PH04	06/27/19 09:45	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/11/19	JKR	GRO-DRO PHCC10C28 PF	
629503-008	S	PH04	06/27/19 09:45	SW8021B	BTEX by EPA 8021B	07/05/19	07/11/19	JKR	BR4FBZ BZ BZME EBZ X	
629503-008	S	PH04	06/27/19 09:45	E300_CL	Chloride by EPA 300	07/05/19	12/24/19	JKR	CL	
629503-009	S	PH04A	06/27/19 09:55	SW8021B	BTEX by EPA 8021B	07/05/19	07/11/19	JKR	BR4FBZ BZ BZME EBZ X	



Inter-Office Shipment

Page 2 of 3

IOS Number **42565**

Date/Time: 06/28/19 15:34

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.:

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
629503-009	S	PH04A	06/27/19 09:55	E300_CL	Chloride by EPA 300	07/05/19	12/24/19	JKR	CL	
629503-009	S	PH04A	06/27/19 09:55	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/11/19	JKR	GRO-DRO PHCC10C28 PF	
629503-010	S	PH05	06/27/19 11:50	SW8021B	BTEX by EPA 8021B	07/05/19	07/11/19	JKR	BR4FBZ BZ BZME EBZ X	
629503-010	S	PH05	06/27/19 11:50	E300_CL	Chloride by EPA 300	07/05/19	12/24/19	JKR	CL	
629503-010	S	PH05	06/27/19 11:50	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/11/19	JKR	GRO-DRO PHCC10C28 PF	
629503-011	S	PH05A	06/27/19 12:00	SW8021B	BTEX by EPA 8021B	07/05/19	07/11/19	JKR	BR4FBZ BZ BZME EBZ X	
629503-011	S	PH05A	06/27/19 12:00	E300_CL	Chloride by EPA 300	07/05/19	12/24/19	JKR	CL	
629503-011	S	PH05A	06/27/19 12:00	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/11/19	JKR	GRO-DRO PHCC10C28 PF	
629503-012	S	PH06	06/27/19 12:40	SW8021B	BTEX by EPA 8021B	07/05/19	07/11/19	JKR	BR4FBZ BZ BZME EBZ X	
629503-012	S	PH06	06/27/19 12:40	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/11/19	JKR	GRO-DRO PHCC10C28 PF	
629503-012	S	PH06	06/27/19 12:40	E300_CL	Chloride by EPA 300	07/05/19	12/24/19	JKR	CL	
629503-013	S	PH06A	06/27/19 12:50	E300_CL	Chloride by EPA 300	07/05/19	12/24/19	JKR	CL	
629503-013	S	PH06A	06/27/19 12:50	SW8021B	BTEX by EPA 8021B	07/05/19	07/11/19	JKR	BR4FBZ BZ BZME EBZ X	
629503-013	S	PH06A	06/27/19 12:50	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/11/19	JKR	GRO-DRO PHCC10C28 PF	
629503-014	S	PH07	06/27/19 13:57	SW8021B	BTEX by EPA 8021B	07/05/19	07/11/19	JKR	BR4FBZ BZ BZME EBZ X	
629503-014	S	PH07	06/27/19 13:57	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/11/19	JKR	GRO-DRO PHCC10C28 PF	
629503-014	S	PH07	06/27/19 13:57	E300_CL	Chloride by EPA 300	07/05/19	12/24/19	JKR	CL	
629503-015	S	PH07A	06/27/19 14:00	E300_CL	Chloride by EPA 300	07/05/19	12/24/19	JKR	CL	
629503-015	S	PH07A	06/27/19 14:00	SW8021B	BTEX by EPA 8021B	07/05/19	07/11/19	JKR	BR4FBZ BZ BZME EBZ X	
629503-015	S	PH07A	06/27/19 14:00	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/11/19	JKR	GRO-DRO PHCC10C28 PF	

Inter Office Shipment or Sample Comments:

Relinquished By:

Elizabeth McClellan

Received By:

Brianna Teel

Date Relinquished: 06/28/2019

Date Received: 07/01/2019 07:26



Inter-Office Shipment

Page 3 of 3

IOS Number 42565

Date/Time: 06/28/19 15:34

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.:

E-Mail: jessica.kramer@xenco.com

Inter Office Shipment or Sample Comments:

Cooler Temperature: 0.6



XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 42565

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sent By: Elizabeth McClellan

Date Sent: 06/28/2019 03:34 PM

Received By: Brianna Teel

Date Received: 07/01/2019 07:26 AM

Sample Receipt Checklist

Comments

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

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Brianna Teel

Date: 07/01/2019



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 06/28/2019 12:00:00 PM

Work Order #: 629503

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	4	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	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	Subbed to Xenco Midland.
#18 Water VOC samples have zero headspace?	N/A	

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 06/28/2019

Checklist reviewed by:

Jessica Kramer

Date: 07/01/2019

Analytical Report 629602

for
LT Environmental, Inc.

Project Manager: Ashley Ager

PLU 23 DTD 1084

D12919134

07-JUL-19

Collected By: Client



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

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)

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

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

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

Xenco-Atlanta (LELAP Lab ID #04176)

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



07-JUL-19

Project Manager: **Ashley Ager**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **629602**

PLU 23 DTD 1084

Project Address: Eddy County

Ashley Ager:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 629602. 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. 629602 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

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**Sample Cross Reference 629602****LT Environmental, Inc., Arvada, CO**

PLU 23 DTD 1084

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH07B	S	06-28-19 08:52	8 ft	629602-001
PH07C	S	06-28-19 10:45	16 ft	629602-002
PH08	S	06-28-19 11:20	0.5 ft	629602-003
PH08A	S	06-28-19 11:30	4.5 ft	629602-004
PH09	S	06-28-19 12:17	2 ft	629602-005
PH09A	S	06-28-19 12:22	4.5 ft	629602-006
PH10	S	06-28-19 12:55	1 ft	629602-007
PH10A	S	06-28-19 13:05	4.5 ft	629602-008
PH11A	S	06-28-19 14:30	4.5 ft	629602-009
PH11	S	06-28-19 14:20	0.5 ft	629602-010
PH12	S	06-28-19 14:57	3 ft	629602-011
PH12A	S	06-28-19 15:27	8 ft	629602-012
PH13	S	06-28-19 16:10	4.5 ft	629602-013
PH13A	S	06-28-19 17:55	15 ft	629602-014



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 23 DTD 1084

Project ID: D12919134
Work Order Number(s): 629602

Report Date: 07-JUL-19
Date Received: 07/01/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3094563 BTEX by EPA 8021B

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

Batch: LBA-3094564 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: 629602-006.



Certificate of Analysis Summary 629602

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 1084

Project Id: D12919134

Contact: Ashley Ager

Project Location: Eddy County

Date Received in Lab: Mon Jul-01-19 11:35 am

Report Date: 07-JUL-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	629602-001	629602-002	629602-003	629602-004	629602-005	629602-006
	<i>Field Id:</i>	PH07B	PH07C	PH08	PH08A	PH09	PH09A
	<i>Depth:</i>	8- ft	16- ft	0.5- ft	4.5- ft	2- ft	4.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-28-19 08:52	Jun-28-19 10:45	Jun-28-19 11:20	Jun-28-19 11:30	Jun-28-19 12:17	Jun-28-19 12:22
BTEX by EPA 8021B SUB: T104704400-18-16	<i>Extracted:</i>	Jul-05-19 13:00	Jul-05-19 13:00	Jul-05-19 13:00	Jul-05-19 13:00	Jul-05-19 13:00	Jul-05-19 13:00
	<i>Analyzed:</i>	Jul-06-19 13:42	Jul-06-19 14:06	Jul-06-19 14:29	Jul-06-19 14:52	Jul-06-19 15:15	Jul-06-19 15:38
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200
Toluene		<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200
Ethylbenzene		<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200
m,p-Xylenes		<0.00402 0.00402	<0.00398 0.00398	<0.00397 0.00397	<0.00398 0.00398	<0.00398 0.00398	<0.00399 0.00399
o-Xylene		<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200
Total Xylenes		<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200
Total BTEX		<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200
Chloride by EPA 300 SUB: T104704400-18-16	<i>Extracted:</i>	Jul-02-19 16:05	Jul-02-19 16:05	Jul-02-19 16:05	Jul-02-19 16:05	Jul-02-19 16:05	Jul-02-19 16:05
	<i>Analyzed:</i>	Jul-02-19 20:40	Jul-02-19 20:47	Jul-02-19 21:09	Jul-02-19 21:16	Jul-02-19 21:24	Jul-02-19 21:31
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		4100 25.1	98.2 5.00	128 5.05	<5.00 5.00	3340 25.0	61.6 5.00
TPH by SW8015 Mod SUB: T104704400-18-16	<i>Extracted:</i>	Jul-02-19 14:00	Jul-02-19 14:00	Jul-02-19 14:00	Jul-02-19 14:00	Jul-02-19 14:00	Jul-02-19 14:00
	<i>Analyzed:</i>	Jul-02-19 21:52	Jul-02-19 23:05	Jul-02-19 23:29	Jul-02-19 23:53	Jul-03-19 00:18	Jul-03-19 00:42
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Diesel Range Organics (DRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Total TPH		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9
Total GRO-DRO		<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 629602

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 1084

Project Id: D12919134

Contact: Ashley Ager

Project Location: Eddy County

Date Received in Lab: Mon Jul-01-19 11:35 am

Report Date: 07-JUL-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	629602-007	629602-008	629602-009	629602-010	629602-011	629602-012
	<i>Field Id:</i>	PH10	PH10A	PH11A	PH11	PH12	PH12A
	<i>Depth:</i>	1- ft	4.5- ft	4.5- ft	0.5- ft	3- ft	8- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jun-28-19 12:55	Jun-28-19 13:05	Jun-28-19 14:30	Jun-28-19 14:20	Jun-28-19 14:57	Jun-28-19 15:27
BTEX by EPA 8021B SUB: T104704400-18-16	<i>Extracted:</i>	Jul-05-19 13:00	Jul-05-19 13:00	Jul-05-19 13:00	Jul-05-19 13:45	Jul-05-19 13:45	Jul-05-19 13:45
	<i>Analyzed:</i>	Jul-06-19 17:47	Jul-06-19 18:11	Jul-06-19 18:34	Jul-06-19 22:38	Jul-06-19 23:01	Jul-06-19 23:24
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201
Toluene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201
Ethylbenzene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201
m,p-Xylenes		<0.00398 0.00398	<0.00400 0.00400	<0.00399 0.00399	<0.00402 0.00402	<0.00398 0.00398	<0.00402 0.00402
o-Xylene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201
Total Xylenes		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201
Total BTEX		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201
Chloride by EPA 300 SUB: T104704400-18-16	<i>Extracted:</i>	Jul-02-19 16:05	Jul-02-19 16:05	Jul-02-19 16:05	Jul-02-19 16:05	Jul-02-19 16:05	Jul-02-19 16:05
	<i>Analyzed:</i>	Jul-02-19 21:38	Jul-02-19 21:45	Jul-02-19 21:53	Jul-02-19 22:14	Jul-02-19 22:36	Jul-02-19 22:43
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		2420 25.0	76.7 5.04	103 4.97	53.8 4.95	654 5.03	18.3 4.99
TPH by SW8015 Mod SUB: T104704400-18-16	<i>Extracted:</i>	Jul-02-19 14:00	Jul-02-19 14:00	Jul-02-19 14:00	Jul-02-19 14:00	Jul-02-19 14:00	Jul-02-19 14:00
	<i>Analyzed:</i>	Jul-03-19 01:06	Jul-03-19 01:31	Jul-03-19 01:55	Jul-03-19 02:19	Jul-03-19 03:08	Jul-03-19 03:32
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0

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Jessica Kramer
Project Assistant



Certificate of Analysis Summary 629602

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 1084

Project Id: D12919134

Contact: Ashley Ager

Project Location: Eddy County

Date Received in Lab: Mon Jul-01-19 11:35 am

Report Date: 07-JUL-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	629602-013	629602-014				
	Field Id:	PH13	PH13A				
	Depth:	4.5- ft	15- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Jun-28-19 16:10	Jun-28-19 17:55				
BTEX by EPA 8021B SUB: T104704400-18-16	Extracted:	Jul-05-19 13:45	Jul-05-19 13:45				
	Analyzed:	Jul-06-19 23:47	Jul-07-19 06:58				
	Units/RL:	mg/kg RL	mg/kg RL				
Benzene		<0.00200 0.00200	<0.00198 0.00198				
Toluene		<0.00200 0.00200	<0.00198 0.00198				
Ethylbenzene		<0.00200 0.00200	<0.00198 0.00198				
m,p-Xylenes		<0.00399 0.00399	<0.00397 0.00397				
o-Xylene		<0.00200 0.00200	<0.00198 0.00198				
Total Xylenes		<0.00200 0.00200	<0.00198 0.00198				
Total BTEX		<0.00200 0.00200	<0.00198 0.00198				
Chloride by EPA 300 SUB: T104704400-18-16	Extracted:	Jul-02-19 16:05	Jul-02-19 16:05				
	Analyzed:	Jul-02-19 22:51	Jul-02-19 22:58				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		2090 25.1	1940 24.8				
TPH by SW8015 Mod SUB: T104704400-18-16	Extracted:	Jul-02-19 14:00	Jul-02-19 14:00				
	Analyzed:	Jul-03-19 03:57	Jul-03-19 04:22				
	Units/RL:	mg/kg RL	mg/kg RL				
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0				
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0				
Total TPH		<15.0 15.0	<15.0 15.0				
Total GRO-DRO		<15.0 15.0	<15.0 15.0				

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH07B**
Lab Sample Id: 629602-001

Matrix: Soil
Date Collected: 06.28.19 08.52

Date Received: 07.01.19 11.35
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094282

Date Prep: 07.02.19 16.05

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4100	25.1	mg/kg	07.02.19 20.40		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094321

Date Prep: 07.02.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.02.19 21.52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.02.19 21.52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.02.19 21.52	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.02.19 21.52	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.02.19 21.52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	07.02.19 21.52	
o-Terphenyl	84-15-1	88	%	70-135	07.02.19 21.52	



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH07B**
Lab Sample Id: 629602-001

Matrix: Soil
Date Collected: 06.28.19 08.52

Date Received: 07.01.19 11.35
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094564

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.06.19 13.42	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.06.19 13.42	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.06.19 13.42	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.06.19 13.42	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.06.19 13.42	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.06.19 13.42	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.06.19 13.42	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.06.19 13.42		
4-Bromofluorobenzene	460-00-4	117	%	70-130	07.06.19 13.42		



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH07C**
Lab Sample Id: 629602-002

Matrix: Soil
Date Collected: 06.28.19 10.45

Date Received: 07.01.19 11.35
Sample Depth: 16 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094282

Date Prep: 07.02.19 16.05

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	98.2	5.00	mg/kg	07.02.19 20.47		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094321

Date Prep: 07.02.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.02.19 23.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.02.19 23.05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	07.02.19 23.05	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	07.02.19 23.05	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	07.02.19 23.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	07.02.19 23.05	
o-Terphenyl	84-15-1	90	%	70-135	07.02.19 23.05	



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH07C**
Lab Sample Id: 629602-002

Matrix: Soil
Date Collected: 06.28.19 10.45

Date Received: 07.01.19 11.35
Sample Depth: 16 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094564

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.06.19 14.06	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.06.19 14.06	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.06.19 14.06	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.06.19 14.06	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.06.19 14.06	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.06.19 14.06	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.06.19 14.06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	70-130	07.06.19 14.06		
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.06.19 14.06		



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH08**
Lab Sample Id: 629602-003

Matrix: Soil
Date Collected: 06.28.19 11.20

Date Received: 07.01.19 11.35
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094282

Date Prep: 07.02.19 16.05

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	128	5.05	mg/kg	07.02.19 21.09		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094321

Date Prep: 07.02.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.02.19 23.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.02.19 23.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.02.19 23.29	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.02.19 23.29	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.02.19 23.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	07.02.19 23.29	
o-Terphenyl	84-15-1	94	%	70-135	07.02.19 23.29	



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH08**
Lab Sample Id: 629602-003

Matrix: Soil
Date Collected: 06.28.19 11.20

Date Received: 07.01.19 11.35
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094564

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.06.19 14.29	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.06.19 14.29	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.06.19 14.29	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	07.06.19 14.29	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.06.19 14.29	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.06.19 14.29	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.06.19 14.29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	70-130	07.06.19 14.29		
1,4-Difluorobenzene	540-36-3	95	%	70-130	07.06.19 14.29		



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH08A**
Lab Sample Id: 629602-004

Matrix: Soil
Date Collected: 06.28.19 11.30

Date Received: 07.01.19 11.35
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094282

Date Prep: 07.02.19 16.05

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.00	5.00	mg/kg	07.02.19 21.16	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094321

Date Prep: 07.02.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.02.19 23.53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.02.19 23.53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.02.19 23.53	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.02.19 23.53	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.02.19 23.53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	07.02.19 23.53	
o-Terphenyl	84-15-1	85	%	70-135	07.02.19 23.53	



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH08A**
Lab Sample Id: 629602-004

Matrix: Soil
Date Collected: 06.28.19 11.30

Date Received: 07.01.19 11.35
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094564

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.06.19 14.52	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.06.19 14.52	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.06.19 14.52	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.06.19 14.52	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.06.19 14.52	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.06.19 14.52	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.06.19 14.52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	70-130	07.06.19 14.52		
1,4-Difluorobenzene	540-36-3	93	%	70-130	07.06.19 14.52		



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH09**
Lab Sample Id: 629602-005

Matrix: Soil
Date Collected: 06.28.19 12.17

Date Received: 07.01.19 11.35
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094282

Date Prep: 07.02.19 16.05

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3340	25.0	mg/kg	07.02.19 21.24		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094321

Date Prep: 07.02.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.03.19 00.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.03.19 00.18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.03.19 00.18	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.03.19 00.18	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.03.19 00.18	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	07.03.19 00.18	
o-Terphenyl	84-15-1	94	%	70-135	07.03.19 00.18	



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH09**
Lab Sample Id: 629602-005

Matrix: Soil
Date Collected: 06.28.19 12.17

Date Received: 07.01.19 11.35
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094564

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.06.19 15.15	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.06.19 15.15	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.06.19 15.15	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.06.19 15.15	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.06.19 15.15	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.06.19 15.15	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.06.19 15.15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	117	%	70-130	07.06.19 15.15		
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.06.19 15.15		



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH09A**
Lab Sample Id: 629602-006

Matrix: Soil
Date Collected: 06.28.19 12.22

Date Received: 07.01.19 11.35
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094282

Date Prep: 07.02.19 16.05

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	61.6	5.00	mg/kg	07.02.19 21.31		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094321

Date Prep: 07.02.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.03.19 00.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.03.19 00.42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	07.03.19 00.42	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	07.03.19 00.42	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	07.03.19 00.42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	07.03.19 00.42	
o-Terphenyl	84-15-1	90	%	70-135	07.03.19 00.42	



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH09A**
Lab Sample Id: 629602-006

Matrix: Soil
Date Collected: 06.28.19 12.22

Date Received: 07.01.19 11.35
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094564

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.06.19 15.38	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.06.19 15.38	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.06.19 15.38	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.06.19 15.38	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.06.19 15.38	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.06.19 15.38	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.06.19 15.38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	177	%	70-130	07.06.19 15.38	**	
1,4-Difluorobenzene	540-36-3	101	%	70-130	07.06.19 15.38		



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH10**
Lab Sample Id: 629602-007

Matrix: Soil
Date Collected: 06.28.19 12.55

Date Received: 07.01.19 11.35
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094282

Date Prep: 07.02.19 16.05

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2420	25.0	mg/kg	07.02.19 21.38		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094321

Date Prep: 07.02.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.03.19 01.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.03.19 01.06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.03.19 01.06	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.03.19 01.06	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.03.19 01.06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	07.03.19 01.06	
o-Terphenyl	84-15-1	86	%	70-135	07.03.19 01.06	



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH10**
Lab Sample Id: 629602-007

Matrix: Soil
Date Collected: 06.28.19 12.55

Date Received: 07.01.19 11.35
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094564

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.06.19 17.47	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.06.19 17.47	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.06.19 17.47	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.06.19 17.47	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.06.19 17.47	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.06.19 17.47	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.06.19 17.47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	70-130	07.06.19 17.47		
1,4-Difluorobenzene	540-36-3	92	%	70-130	07.06.19 17.47		



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH10A**
Lab Sample Id: 629602-008

Matrix: Soil
Date Collected: 06.28.19 13.05

Date Received: 07.01.19 11.35
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094282

Date Prep: 07.02.19 16.05

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	76.7	5.04	mg/kg	07.02.19 21.45		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094321

Date Prep: 07.02.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.03.19 01.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.03.19 01.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.03.19 01.31	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.03.19 01.31	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.03.19 01.31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	125	%	70-135	07.03.19 01.31	
o-Terphenyl	84-15-1	118	%	70-135	07.03.19 01.31	



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH10A**
Lab Sample Id: 629602-008

Matrix: Soil
Date Collected: 06.28.19 13.05

Date Received: 07.01.19 11.35
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094564

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.06.19 18.11	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.06.19 18.11	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.06.19 18.11	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.06.19 18.11	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.06.19 18.11	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.06.19 18.11	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.06.19 18.11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	118	%	70-130	07.06.19 18.11		
1,4-Difluorobenzene	540-36-3	92	%	70-130	07.06.19 18.11		



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH11A**
Lab Sample Id: 629602-009

Matrix: Soil
Date Collected: 06.28.19 14.30

Date Received: 07.01.19 11.35
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094282

Date Prep: 07.02.19 16.05

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	103	4.97	mg/kg	07.02.19 21.53		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094321

Date Prep: 07.02.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.03.19 01.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.03.19 01.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.03.19 01.55	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.03.19 01.55	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.03.19 01.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	07.03.19 01.55	
o-Terphenyl	84-15-1	88	%	70-135	07.03.19 01.55	



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH11A**
Lab Sample Id: 629602-009

Matrix: Soil
Date Collected: 06.28.19 14.30

Date Received: 07.01.19 11.35
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094564

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.06.19 18.34	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.06.19 18.34	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.06.19 18.34	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.06.19 18.34	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.06.19 18.34	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.06.19 18.34	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.06.19 18.34	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	118	%	70-130	07.06.19 18.34		
1,4-Difluorobenzene	540-36-3	92	%	70-130	07.06.19 18.34		



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH11**
Lab Sample Id: 629602-010

Matrix: Soil
Date Collected: 06.28.19 14.20

Date Received: 07.01.19 11.35
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094282

Date Prep: 07.02.19 16.05

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	53.8	4.95	mg/kg	07.02.19 22.14		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094321

Date Prep: 07.02.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.03.19 02.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.03.19 02.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	07.03.19 02.19	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	07.03.19 02.19	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	07.03.19 02.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	07.03.19 02.19	
o-Terphenyl	84-15-1	94	%	70-135	07.03.19 02.19	



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH11**
Lab Sample Id: 629602-010

Matrix: Soil
Date Collected: 06.28.19 14.20

Date Received: 07.01.19 11.35
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094563

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.45

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.06.19 22.38	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.06.19 22.38	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.06.19 22.38	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.06.19 22.38	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.06.19 22.38	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.06.19 22.38	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.06.19 22.38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	70-130	07.06.19 22.38		
1,4-Difluorobenzene	540-36-3	91	%	70-130	07.06.19 22.38		



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH12**
Lab Sample Id: 629602-011

Matrix: Soil
Date Collected: 06.28.19 14.57

Date Received: 07.01.19 11.35
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094282

Date Prep: 07.02.19 16.05

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	654	5.03	mg/kg	07.02.19 22.36		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094321

Date Prep: 07.02.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.03.19 03.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.03.19 03.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.03.19 03.08	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.03.19 03.08	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.03.19 03.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	07.03.19 03.08	
o-Terphenyl	84-15-1	100	%	70-135	07.03.19 03.08	



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH12**
Lab Sample Id: 629602-011

Matrix: Soil
Date Collected: 06.28.19 14.57

Date Received: 07.01.19 11.35
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094563

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.45

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.06.19 23.01	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.06.19 23.01	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.06.19 23.01	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.06.19 23.01	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.06.19 23.01	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.06.19 23.01	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.06.19 23.01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	118	%	70-130	07.06.19 23.01		
1,4-Difluorobenzene	540-36-3	93	%	70-130	07.06.19 23.01		



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH12A**
Lab Sample Id: 629602-012

Matrix: Soil
Date Collected: 06.28.19 15.27

Date Received: 07.01.19 11.35
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094282

Date Prep: 07.02.19 16.05

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	18.3	4.99	mg/kg	07.02.19 22.43		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094321

Date Prep: 07.02.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.03.19 03.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.03.19 03.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.03.19 03.32	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.03.19 03.32	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.03.19 03.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	07.03.19 03.32	
o-Terphenyl	84-15-1	106	%	70-135	07.03.19 03.32	



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH12A**
Lab Sample Id: 629602-012

Matrix: Soil
Date Collected: 06.28.19 15.27

Date Received: 07.01.19 11.35
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094563

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.45

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.06.19 23.24	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.06.19 23.24	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.06.19 23.24	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.06.19 23.24	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.06.19 23.24	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.06.19 23.24	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.06.19 23.24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	93	%	70-130	07.06.19 23.24		
4-Bromofluorobenzene	460-00-4	112	%	70-130	07.06.19 23.24		



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH13**
Lab Sample Id: 629602-013

Matrix: Soil
Date Collected: 06.28.19 16.10

Date Received: 07.01.19 11.35
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094282

Date Prep: 07.02.19 16.05

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2090	25.1	mg/kg	07.02.19 22.51		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094321

Date Prep: 07.02.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.03.19 03.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.03.19 03.57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.03.19 03.57	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.03.19 03.57	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.03.19 03.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	07.03.19 03.57	
o-Terphenyl	84-15-1	100	%	70-135	07.03.19 03.57	



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH13**
Lab Sample Id: 629602-013

Matrix: Soil
Date Collected: 06.28.19 16.10

Date Received: 07.01.19 11.35
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094563

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.45

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.06.19 23.47	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.06.19 23.47	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.06.19 23.47	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.06.19 23.47	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.06.19 23.47	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.06.19 23.47	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.06.19 23.47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.06.19 23.47		
4-Bromofluorobenzene	460-00-4	118	%	70-130	07.06.19 23.47		



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH13A**
Lab Sample Id: 629602-014

Matrix: Soil
Date Collected: 06.28.19 17.55

Date Received: 07.01.19 11.35
Sample Depth: 15 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094282

Date Prep: 07.02.19 16.05

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1940	24.8	mg/kg	07.02.19 22.58		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094321

Date Prep: 07.02.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.03.19 04.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.03.19 04.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.03.19 04.22	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.03.19 04.22	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.03.19 04.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	07.03.19 04.22	
o-Terphenyl	84-15-1	97	%	70-135	07.03.19 04.22	



Certificate of Analytical Results 629602

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 1084

Sample Id: **PH13A**
Lab Sample Id: 629602-014

Matrix: Soil
Date Collected: 06.28.19 17.55

Date Received: 07.01.19 11.35
Sample Depth: 15 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094563

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.45

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.07.19 06.58	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.07.19 06.58	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.07.19 06.58	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	07.07.19 06.58	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.07.19 06.58	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.07.19 06.58	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.07.19 06.58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	120	%	70-130	07.07.19 06.58		
1,4-Difluorobenzene	540-36-3	90	%	70-130	07.07.19 06.58		



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU 23 DTD 1084

Analytical Method: Chloride by EPA 300

Seq Number: 3094282

MB Sample Id: 7681269-1-BLK

Matrix: Solid

LCS Sample Id: 7681269-1-BKS

Prep Method: E300P

Date Prep: 07.02.19

LCSD Sample Id: 7681269-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	247	99	247	99	90-110	0	20	mg/kg	07.02.19 19:56	

Analytical Method: Chloride by EPA 300

Seq Number: 3094282

Parent Sample Id: 629602-009

Matrix: Soil

MS Sample Id: 629602-009 S

Prep Method: E300P

Date Prep: 07.02.19

MSD Sample Id: 629602-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	103	249	349	99	350	99	90-110	0	20	mg/kg	07.02.19 22:00	

Analytical Method: Chloride by EPA 300

Seq Number: 3094282

Parent Sample Id: 629705-002

Matrix: Soil

MS Sample Id: 629705-002 S

Prep Method: E300P

Date Prep: 07.02.19

MSD Sample Id: 629705-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	374	250	590	86	593	88	90-110	1	20	mg/kg	07.02.19 20:18	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3094321

MB Sample Id: 7681279-1-BLK

Matrix: Solid

LCS Sample Id: 7681279-1-BKS

Prep Method: TX1005P

Date Prep: 07.02.19

LCSD Sample Id: 7681279-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	965	97	1030	103	70-135	7	20	mg/kg	07.02.19 21:03	
Diesel Range Organics (DRO)	<8.13	1000	1020	102	1120	112	70-135	9	20	mg/kg	07.02.19 21:03	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		90		92		70-135	%	07.02.19 21:03
o-Terphenyl	107		93		100		70-135	%	07.02.19 21:03

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

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

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

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



LT Environmental, Inc.

PLU 23 DTD 1084

Analytical Method: TPH by SW8015 Mod

Seq Number: 3094321

Parent Sample Id: 629602-001

Matrix: Soil

MS Sample Id: 629602-001 S

Prep Method: TX1005P

Date Prep: 07.02.19

MSD Sample Id: 629602-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	11.5	997	988	98	996	99	70-135	1	20	mg/kg	07.02.19 22:17	
Diesel Range Organics (DRO)	11.5	997	1100	109	1040	103	70-135	6	20	mg/kg	07.02.19 22:17	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	85		85		70-135	%	07.02.19 22:17
o-Terphenyl	95		89		70-135	%	07.02.19 22:17

Analytical Method: BTEX by EPA 8021B

Seq Number: 3094564

MB Sample Id: 7681453-1-BLK

Matrix: Solid

LCS Sample Id: 7681453-1-BKS

Prep Method: SW5030B

Date Prep: 07.05.19

LCSD Sample Id: 7681453-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0860	86	0.0854	85	70-130	1	35	mg/kg	07.06.19 04:08	
Toluene	<0.00200	0.100	0.105	105	0.102	101	70-130	3	35	mg/kg	07.06.19 04:08	
Ethylbenzene	<0.00200	0.100	0.121	121	0.117	116	70-130	3	35	mg/kg	07.06.19 04:08	
m,p-Xylenes	<0.00400	0.200	0.241	121	0.232	115	70-130	4	35	mg/kg	07.06.19 04:08	
o-Xylene	<0.00200	0.100	0.116	116	0.111	110	70-130	4	35	mg/kg	07.06.19 04:08	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		89		89		70-130	%	07.06.19 04:08
4-Bromofluorobenzene	109		117		112		70-130	%	07.06.19 04:08

Analytical Method: BTEX by EPA 8021B

Seq Number: 3094563

MB Sample Id: 7681451-1-BLK

Matrix: Solid

LCS Sample Id: 7681451-1-BKS

Prep Method: SW5030B

Date Prep: 07.05.19

LCSD Sample Id: 7681451-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.000386	0.100	0.0848	85	0.0832	82	70-130	2	35	mg/kg	07.06.19 20:13	
Toluene	<0.000457	0.100	0.101	101	0.102	101	70-130	1	35	mg/kg	07.06.19 20:13	
Ethylbenzene	<0.00200	0.100	0.116	116	0.119	118	70-130	3	35	mg/kg	07.06.19 20:13	
m,p-Xylenes	<0.00102	0.200	0.226	113	0.234	116	70-130	3	35	mg/kg	07.06.19 20:13	
o-Xylene	0.000358	0.100	0.109	109	0.113	112	70-130	4	35	mg/kg	07.06.19 20:13	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	86		90		89		70-130	%	07.06.19 20:13
4-Bromofluorobenzene	108		109		116		70-130	%	07.06.19 20:13

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

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

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

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



LT Environmental, Inc.

PLU 23 DTD 1084

Analytical Method: BTEX by EPA 8021B

Seq Number: 3094564

Parent Sample Id: 629979-001

Matrix: Soil

MS Sample Id: 629979-001 S

Prep Method: SW5030B

Date Prep: 07.05.19

MSD Sample Id: 629979-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0821	82	0.0844	85	70-130	3	35	mg/kg	07.06.19 04:54	
Toluene	<0.00199	0.0996	0.0959	96	0.0950	96	70-130	1	35	mg/kg	07.06.19 04:54	
Ethylbenzene	<0.00199	0.0996	0.107	107	0.104	105	70-130	3	35	mg/kg	07.06.19 04:54	
m,p-Xylenes	<0.00398	0.199	0.209	105	0.205	103	70-130	2	35	mg/kg	07.06.19 04:54	
o-Xylene	<0.00199	0.0996	0.100	100	0.0982	99	70-130	2	35	mg/kg	07.06.19 04:54	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		95		70-130	%	07.06.19 04:54
4-Bromofluorobenzene	116		114		70-130	%	07.06.19 04:54

Analytical Method: BTEX by EPA 8021B

Seq Number: 3094563

Parent Sample Id: 629602-010

Matrix: Soil

MS Sample Id: 629602-010 S

Prep Method: SW5030B

Date Prep: 07.05.19

MSD Sample Id: 629602-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0713	72	0.0750	75	70-130	5	35	mg/kg	07.06.19 20:59	
Toluene	<0.00199	0.0996	0.0864	87	0.0905	91	70-130	5	35	mg/kg	07.06.19 20:59	
Ethylbenzene	<0.00199	0.0996	0.0986	99	0.103	103	70-130	4	35	mg/kg	07.06.19 20:59	
m,p-Xylenes	<0.00398	0.199	0.191	96	0.200	100	70-130	5	35	mg/kg	07.06.19 20:59	
o-Xylene	<0.00199	0.0996	0.0927	93	0.0954	96	70-130	3	35	mg/kg	07.06.19 20:59	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		91		70-130	%	07.06.19 20:59
4-Bromofluorobenzene	119		119		70-130	%	07.06.19 20:59

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

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

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

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



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1236
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

Chain of Custody

Work Order No: 629402

Project Manager:	Dan Meier	Bill to: (if different)	Kyle Littell
Company Name:	LT Environmental	Company Name:	XTB
Address:	3500 North A Street	Address:	2104 E. Greene Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carlsbad NM 88220
Phone:	432 336 3819	Email:	ayres@ltenu.com

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

Project Name:	PLU 23-07D 1084	Turn Around	☐	Pres. Code	
Project Number:	002919134	Routine	☐		
Project Location:	Eddy County	Rush:	3 day		
Sample Name:	Anna Byers	Due Date:			
PO #:	280-4870	Quote #:			

SAMPLE RECEIPT	Temp Blank:	☒ Yes ☐ No	Wet Ice:	☒ Yes ☐ No
Temperature (°C):	3.7°C	Thermometer ID	T-NLU-004	
Received Intact:	☒ Yes ☐ No	Correction Factor:	-0.2	
Cooler Custody Seals:	☒ Yes ☐ No	Total Containers:	10	
Sample Custody Seals:	☒ Yes ☐ No			

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8012)	BTEX (EPA 8021)	EPA Chloride (300)	ANALYSIS REQUEST	Preservative Codes	Sample Comments
PH07B		S	4/28/19	0852	8'	1	X	X	X			
PH07C		S		1045	16'	1	X	X	X			
PH08		S		1120	0.5'	1	X	X	X			
PH08A		S		1130	4.5'	1	X	X	X			
PH09		S		1217	2'	1	X	X	X			
PH09A		S		1222	4.5'	1	X	X	X			
PH10		S		1255	1'	1	X	X	X			
PH10A		S		1305	4.5'	1	X	X	X			
PH11A		S		1430	4.5'	1	X	X	X			
PH11		S		1420	0.5'	1	X	X	X			

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	[Signature]	07/01/19 11:20	[Signature]	[Signature]	07/01/19 11:35



Chain of Custody

Work Order No:

60291602

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Corsland, NM (432) 704-5440
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Page 2 of 2

Project Manager:	Don Meir	Bill to: (if different)	Kyle Littell
Company Name:	LT Environmental	Company Name:	KTD
Address:	3800 North A Street	Address:	3104 E. Greene Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Corsland NM 88220
Phone:	432 336 3819	Email:	abeyes@ltenv.com

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

Project Name:	PLU 330TD 1084	Turn Around	☐
Project Number:	012919134	Routine	☐
Project Location:	Eddy County	Rush:	3 days
Sampler's Name:	Anna Byers	Due Date:	
PO #:	282-4840	Quote #:	

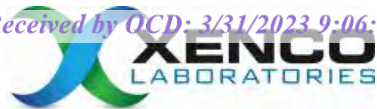
SAMPLE RECEIPT		Temp Blank:	☒ Yes ☐ No	Wet Ice:	☒ Yes ☐ No
Temperature (°C):	3.7°C	Thermometer ID	T-M-007		
Received Intact:	☒ Yes ☐ No	Correction Factor:	-0.2		
Cooler Custody Seals:	Yes ☐ No ☐ N/A	Total Containers:	10		
Sample Custody Seals:	Yes ☐ No ☐ N/A				

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST	Preservative Codes	Sample Comments
PH12		S	6/28/19	1457	3'	1	TPH (EPA 8012)	MeOH: Me	
PH12A		S		1527	8'	1	BTEX (EPA 8021)	None: NO	
PH13		S		1610	4.5'	1	EPA Chloride (300)	HNO3: HN	
PH13A		S		1755	15'	1		H2SO4: H2	
								HCL: HL	
								NaOH: Na	
								Zn Acetate+ NaOH: Zn	
								TAT starts the day received by the lab, if received by 4:00pm	

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	[Signature]	07/01/19 11:20	[Signature]	[Signature]	07/01/19 11:35



Inter-Office Shipment

Page 1 of 2

IOS Number **42620**

Date/Time: 07/01/19 13:00

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.: 775613045113

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
629602-001	S	PH07B	06/28/19 08:52	SW8015MOD_NM	TPH by SW8015 Mod	07/04/19	07/12/19	JKR	GRO-DRO PHCC10C28 PF	
629602-001	S	PH07B	06/28/19 08:52	E300_CL	Chloride by EPA 300	07/04/19	12/25/19	JKR	CL	
629602-001	S	PH07B	06/28/19 08:52	SW8021B	BTEX by EPA 8021B	07/04/19	07/12/19	JKR	BR4FBZ BZ BZME EBZ X	
629602-002	S	PH07C	06/28/19 10:45	SW8015MOD_NM	TPH by SW8015 Mod	07/04/19	07/12/19	JKR	GRO-DRO PHCC10C28 PF	
629602-002	S	PH07C	06/28/19 10:45	E300_CL	Chloride by EPA 300	07/04/19	12/25/19	JKR	CL	
629602-002	S	PH07C	06/28/19 10:45	SW8021B	BTEX by EPA 8021B	07/04/19	07/12/19	JKR	BR4FBZ BZ BZME EBZ X	
629602-003	S	PH08	06/28/19 11:20	SW8015MOD_NM	TPH by SW8015 Mod	07/04/19	07/12/19	JKR	GRO-DRO PHCC10C28 PF	
629602-003	S	PH08	06/28/19 11:20	E300_CL	Chloride by EPA 300	07/04/19	12/25/19	JKR	CL	
629602-003	S	PH08	06/28/19 11:20	SW8021B	BTEX by EPA 8021B	07/04/19	07/12/19	JKR	BR4FBZ BZ BZME EBZ X	
629602-004	S	PH08A	06/28/19 11:30	SW8021B	BTEX by EPA 8021B	07/04/19	07/12/19	JKR	BR4FBZ BZ BZME EBZ X	
629602-004	S	PH08A	06/28/19 11:30	SW8015MOD_NM	TPH by SW8015 Mod	07/04/19	07/12/19	JKR	GRO-DRO PHCC10C28 PF	
629602-004	S	PH08A	06/28/19 11:30	E300_CL	Chloride by EPA 300	07/04/19	12/25/19	JKR	CL	
629602-005	S	PH09	06/28/19 12:17	SW8015MOD_NM	TPH by SW8015 Mod	07/04/19	07/12/19	JKR	GRO-DRO PHCC10C28 PF	
629602-005	S	PH09	06/28/19 12:17	E300_CL	Chloride by EPA 300	07/04/19	12/25/19	JKR	CL	
629602-005	S	PH09	06/28/19 12:17	SW8021B	BTEX by EPA 8021B	07/04/19	07/12/19	JKR	BR4FBZ BZ BZME EBZ X	
629602-006	S	PH09A	06/28/19 12:22	SW8015MOD_NM	TPH by SW8015 Mod	07/04/19	07/12/19	JKR	GRO-DRO PHCC10C28 PF	
629602-006	S	PH09A	06/28/19 12:22	SW8021B	BTEX by EPA 8021B	07/04/19	07/12/19	JKR	BR4FBZ BZ BZME EBZ X	
629602-006	S	PH09A	06/28/19 12:22	E300_CL	Chloride by EPA 300	07/04/19	12/25/19	JKR	CL	
629602-007	S	PH10	06/28/19 12:55	SW8015MOD_NM	TPH by SW8015 Mod	07/04/19	07/12/19	JKR	GRO-DRO PHCC10C28 PF	
629602-007	S	PH10	06/28/19 12:55	SW8021B	BTEX by EPA 8021B	07/04/19	07/12/19	JKR	BR4FBZ BZ BZME EBZ X	
629602-007	S	PH10	06/28/19 12:55	E300_CL	Chloride by EPA 300	07/04/19	12/25/19	JKR	CL	
629602-008	S	PH10A	06/28/19 13:05	SW8015MOD_NM	TPH by SW8015 Mod	07/04/19	07/12/19	JKR	GRO-DRO PHCC10C28 PF	
629602-008	S	PH10A	06/28/19 13:05	SW8021B	BTEX by EPA 8021B	07/04/19	07/12/19	JKR	BR4FBZ BZ BZME EBZ X	
629602-008	S	PH10A	06/28/19 13:05	E300_CL	Chloride by EPA 300	07/04/19	12/25/19	JKR	CL	
629602-009	S	PH11A	06/28/19 14:30	E300_CL	Chloride by EPA 300	07/04/19	12/25/19	JKR	CL	



Inter-Office Shipment

Page 2 of 2

IOS Number **42620**

Date/Time: 07/01/19 13:00

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.: 775613045113

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
629602-009	S	PH11A	06/28/19 14:30	SW8021B	BTEX by EPA 8021B	07/04/19	07/12/19	JKR	BR4FBZ BZ BZME EBZ X	
629602-009	S	PH11A	06/28/19 14:30	SW8015MOD_NM	TPH by SW8015 Mod	07/04/19	07/12/19	JKR	GRO-DRO PHCC10C28 PF	
629602-010	S	PH11	06/28/19 14:20	SW8021B	BTEX by EPA 8021B	07/04/19	07/12/19	JKR	BR4FBZ BZ BZME EBZ X	
629602-010	S	PH11	06/28/19 14:20	SW8015MOD_NM	TPH by SW8015 Mod	07/04/19	07/12/19	JKR	GRO-DRO PHCC10C28 PF	
629602-010	S	PH11	06/28/19 14:20	E300_CL	Chloride by EPA 300	07/04/19	12/25/19	JKR	CL	
629602-011	S	PH12	06/28/19 14:57	SW8021B	BTEX by EPA 8021B	07/04/19	07/12/19	JKR	BR4FBZ BZ BZME EBZ X	
629602-011	S	PH12	06/28/19 14:57	E300_CL	Chloride by EPA 300	07/04/19	12/25/19	JKR	CL	
629602-011	S	PH12	06/28/19 14:57	SW8015MOD_NM	TPH by SW8015 Mod	07/04/19	07/12/19	JKR	GRO-DRO PHCC10C28 PF	
629602-012	S	PH12A	06/28/19 15:27	SW8021B	BTEX by EPA 8021B	07/04/19	07/12/19	JKR	BR4FBZ BZ BZME EBZ X	
629602-012	S	PH12A	06/28/19 15:27	SW8015MOD_NM	TPH by SW8015 Mod	07/04/19	07/12/19	JKR	GRO-DRO PHCC10C28 PF	
629602-012	S	PH12A	06/28/19 15:27	E300_CL	Chloride by EPA 300	07/04/19	12/25/19	JKR	CL	
629602-013	S	PH13	06/28/19 16:10	SW8015MOD_NM	TPH by SW8015 Mod	07/04/19	07/12/19	JKR	GRO-DRO PHCC10C28 PF	
629602-013	S	PH13	06/28/19 16:10	E300_CL	Chloride by EPA 300	07/04/19	12/25/19	JKR	CL	
629602-013	S	PH13	06/28/19 16:10	SW8021B	BTEX by EPA 8021B	07/04/19	07/12/19	JKR	BR4FBZ BZ BZME EBZ X	
629602-014	S	PH13A	06/28/19 17:55	SW8021B	BTEX by EPA 8021B	07/04/19	07/12/19	JKR	BR4FBZ BZ BZME EBZ X	
629602-014	S	PH13A	06/28/19 17:55	SW8015MOD_NM	TPH by SW8015 Mod	07/04/19	07/12/19	JKR	GRO-DRO PHCC10C28 PF	
629602-014	S	PH13A	06/28/19 17:55	E300_CL	Chloride by EPA 300	07/04/19	12/25/19	JKR	CL	

Inter Office Shipment or Sample Comments:

Relinquished By:

Elizabeth McClellan

Date Relinquished: 07/01/2019

Received By:

Brianna Teel

Date Received: 07/02/2019 12:14

Cooler Temperature: 0.6



XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 42620

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sent By: Elizabeth McClellan

Date Sent: 07/01/2019 01:00 PM

Received By: Brianna Teel

Date Received: 07/02/2019 12:14 PM

Sample Receipt Checklist

Comments

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

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Brianna Teel

Date: 07/02/2019



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 07/01/2019 11:35:00 AM

Work Order #: 629602

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	3.7
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#5 Custody Seals intact on sample bottles?	No
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	Yes
#18 Water VOC samples have zero headspace?	N/A

Subbed to Xenco Midland.

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 07/01/2019

Checklist reviewed by:

Jessica Kramer

Date: 07/03/2019

Analytical Report 629716

for
LT Environmental, Inc.

Project Manager: Ashley Ager

PLU 23DTD 1084

012919134

08-JUL-19

Collected By: Client



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

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

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

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



08-JUL-19

Project Manager: **Ashley Ager**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **629716**

PLU 23DTD 1084

Project Address: Eddy County

Ashley Ager:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 629716. 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. 629716 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

A handwritten signature in black ink that reads 'Kalei Stout'.

Kalei Stout

Carlsbad Laboratory Director

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**Sample Cross Reference 629716****LT Environmental, Inc., Arvada, CO**

PLU 23DTD 1084

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH14	S	07-01-19 09:22	2 ft	629716-001
PH14A	S	07-01-19 09:27	4.5 ft	629716-002
PH15	S	07-01-19 10:30	0.5 ft	629716-003
PH15A	S	07-01-19 10:40	4.5 ft	629716-004
PH16	S	07-01-19 11:40	4.5 ft	629716-005
PH16A	S	07-01-19 12:07	8.0 ft	629716-006
PH17	S	07-01-19 12:55	1.0 ft	629716-007
PH17A	S	07-01-19 13:05	4.5 ft	629716-008
PH18	S	07-01-19 14:02	2 ft	629716-009
PH18A	S	07-01-19 14:07	4.5 ft	629716-010
PH19	S	07-01-19 15:05	0.5 ft	629716-011
PH19A	S	07-01-19 15:18	4.5 ft	629716-012
PH20	S	07-01-19 15:55	3 ft	629716-013
PH20A	S	07-01-19 16:45	8 ft	629716-014



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 23DTD 1084

Project ID: 012919134
Work Order Number(s): 629716

Report Date: 08-JUL-19
Date Received: 07/02/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3094635 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: 629716-005,629716-007,629716-006.

Batch: LBA-3094667 BTEX by EPA 8021B

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



Certificate of Analysis Summary 629716

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23DTD 1084

Project Id: 012919134

Contact: Ashley Ager

Project Location: Eddy County

Date Received in Lab: Tue Jul-02-19 08:05 am

Report Date: 08-JUL-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	629716-001	629716-002	629716-003	629716-004	629716-005	629716-006
	<i>Field Id:</i>	PH14	PH14A	PH15	PH15A	PH16	PH16A
	<i>Depth:</i>	2- ft	4.5- ft	0.5- ft	4.5- ft	4.5- ft	8.0- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jul-01-19 09:22	Jul-01-19 09:27	Jul-01-19 10:30	Jul-01-19 10:40	Jul-01-19 11:40	Jul-01-19 12:07
BTEX by EPA 8021B SUB: T104704400-18-16	<i>Extracted:</i>	Jul-05-19 14:30	Jul-05-19 14:30	Jul-05-19 14:30	Jul-05-19 14:30	Jul-05-19 14:30	Jul-05-19 14:30
	<i>Analyzed:</i>	Jul-07-19 22:17	Jul-07-19 22:41	Jul-08-19 01:59	Jul-08-19 02:22	Jul-08-19 02:45	Jul-08-19 03:09
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00399 0.00399	<0.00403 0.00403	<0.00398 0.00398	<0.00402 0.00402	<0.00399 0.00399	<0.00398 0.00398
o-Xylene		<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Total BTEX		<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Chloride by EPA 300 SUB: T104704400-18-16	<i>Extracted:</i>	Jul-03-19 15:40	Jul-03-19 15:40	Jul-03-19 15:40	Jul-03-19 15:40	Jul-03-19 15:40	Jul-03-19 15:40
	<i>Analyzed:</i>	Jul-05-19 11:18	Jul-05-19 11:26	Jul-05-19 11:47	Jul-05-19 11:55	Jul-05-19 12:02	Jul-05-19 12:09
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		815 4.95	37.6 5.02	44.3 4.98	8.72 5.00	477 5.03	13.2 4.99
TPH by SW8015 Mod SUB: T104704400-18-16	<i>Extracted:</i>	Jul-03-19 14:00	Jul-03-19 14:00	Jul-03-19 14:00	Jul-03-19 14:00	Jul-03-19 14:00	Jul-03-19 14:00
	<i>Analyzed:</i>	Jul-03-19 22:08	Jul-03-19 23:22	Jul-03-19 23:47	Jul-04-19 00:11	Jul-04-19 00:35	Jul-04-19 00:58
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0

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Kalei Stout
Carlsbad Laboratory Director



Certificate of Analysis Summary 629716

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23DTD 1084

Project Id: 012919134
Contact: Ashley Ager
Project Location: Eddy County

Date Received in Lab: Tue Jul-02-19 08:05 am
Report Date: 08-JUL-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	629716-007	629716-008	629716-009	629716-010	629716-011	629716-012
	<i>Field Id:</i>	PH17	PH17A	PH18	PH18A	PH19	PH19A
	<i>Depth:</i>	1.0- ft	4.5- ft	2- ft	4.5- ft	0.5- ft	4.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jul-01-19 12:55	Jul-01-19 13:05	Jul-01-19 14:02	Jul-01-19 14:07	Jul-01-19 15:05	Jul-01-19 15:18
BTEX by EPA 8021B SUB: T104704400-18-16	<i>Extracted:</i>	Jul-05-19 14:30	Jul-05-19 14:30	Jul-05-19 14:30	Jul-05-19 14:30	Jul-05-19 15:30	Jul-05-19 15:30
	<i>Analyzed:</i>	Jul-08-19 03:32	Jul-08-19 03:55	Jul-08-19 04:18	Jul-08-19 04:41	Jul-07-19 05:12	Jul-07-19 05:34
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
m,p-Xylenes		<0.00400 0.00400	<0.00399 0.00399	<0.00398 0.00398	<0.00401 0.00401	<0.00398 0.00398	<0.00399 0.00399
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Chloride by EPA 300 SUB: T104704400-18-16	<i>Extracted:</i>	Jul-03-19 15:40	Jul-03-19 15:40	Jul-03-19 15:40	Jul-03-19 16:15	Jul-03-19 16:15	Jul-03-19 16:15
	<i>Analyzed:</i>	Jul-05-19 12:16	Jul-05-19 12:24	Jul-05-19 12:31	Jul-03-19 18:44	Jul-03-19 18:49	Jul-03-19 18:53
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		662 5.05	361 5.00	512 5.00	115 4.98	142 4.96	10.1 5.00
TPH by SW8015 Mod SUB: T104704400-18-16	<i>Extracted:</i>	Jul-03-19 14:00	Jul-03-19 14:00	Jul-03-19 14:00	Jul-03-19 14:00	Jul-03-19 14:00	Jul-03-19 14:00
	<i>Analyzed:</i>	Jul-04-19 01:22	Jul-04-19 01:46	Jul-04-19 02:11	Jul-04-19 02:35	Jul-04-19 03:24	Jul-04-19 03:48
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	17.4 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	17.4 15.0	<15.0 15.0
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	17.4 15.0	<15.0 15.0

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Kalei Stout
Carlsbad Laboratory Director



Certificate of Analysis Summary 629716

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23DTD 1084

Project Id: 012919134
Contact: Ashley Ager
Project Location: Eddy County

Date Received in Lab: Tue Jul-02-19 08:05 am
Report Date: 08-JUL-19
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	629716-013	629716-014				
	Field Id:	PH20	PH20A				
	Depth:	3- ft	8- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Jul-01-19 15:55	Jul-01-19 16:45				
BTEX by EPA 8021B SUB: T104704400-18-16	Extracted:	Jul-05-19 15:30	Jul-05-19 15:30				
	Analyzed:	Jul-07-19 05:56	Jul-07-19 06:18				
	Units/RL:	mg/kg RL	mg/kg RL				
Benzene		<0.00201 0.00201	<0.00200 0.00200				
Toluene		<0.00201 0.00201	<0.00200 0.00200				
Ethylbenzene		<0.00201 0.00201	<0.00200 0.00200				
m,p-Xylenes		<0.00402 0.00402	<0.00401 0.00401				
o-Xylene		<0.00201 0.00201	<0.00200 0.00200				
Total Xylenes		<0.00201 0.00201	<0.00200 0.00200				
Total BTEX		<0.00201 0.00201	<0.00200 0.00200				
Chloride by EPA 300 SUB: T104704400-18-16	Extracted:	Jul-03-19 16:15	Jul-03-19 16:15				
	Analyzed:	Jul-03-19 18:58	Jul-03-19 19:13				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		669 4.95	12.7 5.04				
TPH by SW8015 Mod SUB: T104704400-18-16	Extracted:	Jul-03-19 14:00	Jul-03-19 14:00				
	Analyzed:	Jul-04-19 04:12	Jul-04-19 04:37				
	Units/RL:	mg/kg RL	mg/kg RL				
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0				
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0				
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0				
Total TPH		<15.0 15.0	<15.0 15.0				
Total GRO-DRO		<15.0 15.0	<15.0 15.0				

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Kalei Stout
Carlsbad Laboratory Director



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH14**
Lab Sample Id: 629716-001

Matrix: Soil
Date Collected: 07.01.19 09.22

Date Received: 07.02.19 08.05
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094498

Date Prep: 07.03.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	815	4.95	mg/kg	07.05.19 11.18		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094458

Date Prep: 07.03.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.03.19 22.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.03.19 22.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.03.19 22.08	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.03.19 22.08	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.03.19 22.08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	07.03.19 22.08	
o-Terphenyl	84-15-1	86	%	70-135	07.03.19 22.08	



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH14**
Lab Sample Id: 629716-001

Matrix: Soil
Date Collected: 07.01.19 09.22

Date Received: 07.02.19 08.05
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094635

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 14.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.07.19 22.17	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.07.19 22.17	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.07.19 22.17	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.07.19 22.17	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.07.19 22.17	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.07.19 22.17	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.07.19 22.17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	129	%	70-130	07.07.19 22.17		
1,4-Difluorobenzene	540-36-3	90	%	70-130	07.07.19 22.17		



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH14A**
Lab Sample Id: 629716-002

Matrix: Soil
Date Collected: 07.01.19 09.27

Date Received: 07.02.19 08.05
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094498

Date Prep: 07.03.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	37.6	5.02	mg/kg	07.05.19 11.26		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094458

Date Prep: 07.03.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.03.19 23.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.03.19 23.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.03.19 23.22	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.03.19 23.22	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.03.19 23.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	07.03.19 23.22	
o-Terphenyl	84-15-1	81	%	70-135	07.03.19 23.22	



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH14A**
Lab Sample Id: 629716-002

Matrix: Soil
Date Collected: 07.01.19 09.27

Date Received: 07.02.19 08.05
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094635

Date Prep: 07.05.19 14.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.07.19 22.41	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.07.19 22.41	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.07.19 22.41	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	07.07.19 22.41	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.07.19 22.41	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.07.19 22.41	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.07.19 22.41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	93	%	70-130	07.07.19 22.41		
4-Bromofluorobenzene	460-00-4	121	%	70-130	07.07.19 22.41		



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH15**
Lab Sample Id: 629716-003

Matrix: Soil
Date Collected: 07.01.19 10.30

Date Received: 07.02.19 08.05
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094498

Date Prep: 07.03.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	44.3	4.98	mg/kg	07.05.19 11.47		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094458

Date Prep: 07.03.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.03.19 23.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.03.19 23.47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.03.19 23.47	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.03.19 23.47	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.03.19 23.47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	07.03.19 23.47	
o-Terphenyl	84-15-1	81	%	70-135	07.03.19 23.47	



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH15**
Lab Sample Id: 629716-003

Matrix: Soil
Date Collected: 07.01.19 10.30

Date Received: 07.02.19 08.05
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094635

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 14.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.08.19 01.59	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.08.19 01.59	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.08.19 01.59	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.08.19 01.59	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.08.19 01.59	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.08.19 01.59	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.08.19 01.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	120	%	70-130	07.08.19 01.59		
1,4-Difluorobenzene	540-36-3	90	%	70-130	07.08.19 01.59		



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH15A**
Lab Sample Id: 629716-004

Matrix: Soil
Date Collected: 07.01.19 10.40

Date Received: 07.02.19 08.05
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094498

Date Prep: 07.03.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8.72	5.00	mg/kg	07.05.19 11.55		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094458

Date Prep: 07.03.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.04.19 00.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.04.19 00.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.04.19 00.11	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.04.19 00.11	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.04.19 00.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	07.04.19 00.11	
o-Terphenyl	84-15-1	86	%	70-135	07.04.19 00.11	



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH15A**
Lab Sample Id: 629716-004

Matrix: Soil
Date Collected: 07.01.19 10.40

Date Received: 07.02.19 08.05
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094635

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 14.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.08.19 02.22	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.08.19 02.22	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.08.19 02.22	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.08.19 02.22	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.08.19 02.22	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.08.19 02.22	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.08.19 02.22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	123	%	70-130	07.08.19 02.22		
1,4-Difluorobenzene	540-36-3	92	%	70-130	07.08.19 02.22		



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH16**
Lab Sample Id: 629716-005

Matrix: Soil
Date Collected: 07.01.19 11.40

Date Received: 07.02.19 08.05
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094498

Date Prep: 07.03.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	477	5.03	mg/kg	07.05.19 12.02		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094458

Date Prep: 07.03.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.04.19 00.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.04.19 00.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	07.04.19 00.35	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	07.04.19 00.35	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	07.04.19 00.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	07.04.19 00.35	
o-Terphenyl	84-15-1	93	%	70-135	07.04.19 00.35	



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH16**
Lab Sample Id: 629716-005

Matrix: Soil
Date Collected: 07.01.19 11.40

Date Received: 07.02.19 08.05
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094635

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 14.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.08.19 02.45	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.08.19 02.45	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.08.19 02.45	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.08.19 02.45	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.08.19 02.45	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.08.19 02.45	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.08.19 02.45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	140	%	70-130	07.08.19 02.45	**	
1,4-Difluorobenzene	540-36-3	86	%	70-130	07.08.19 02.45		



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH16A**
Lab Sample Id: 629716-006

Matrix: Soil
Date Collected: 07.01.19 12.07

Date Received: 07.02.19 08.05
Sample Depth: 8.0 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094498

Date Prep: 07.03.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.2	4.99	mg/kg	07.05.19 12.09		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094458

Date Prep: 07.03.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.04.19 00.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.04.19 00.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.04.19 00.58	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.04.19 00.58	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.04.19 00.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	07.04.19 00.58	
o-Terphenyl	84-15-1	81	%	70-135	07.04.19 00.58	



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH16A**
Lab Sample Id: 629716-006

Matrix: Soil
Date Collected: 07.01.19 12.07

Date Received: 07.02.19 08.05
Sample Depth: 8.0 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094635

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 14.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.08.19 03.09	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.08.19 03.09	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.08.19 03.09	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.08.19 03.09	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.08.19 03.09	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.08.19 03.09	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.08.19 03.09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	140	%	70-130	07.08.19 03.09	**	
1,4-Difluorobenzene	540-36-3	86	%	70-130	07.08.19 03.09		



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH17**
Lab Sample Id: 629716-007

Matrix: Soil
Date Collected: 07.01.19 12.55

Date Received: 07.02.19 08.05
Sample Depth: 1.0 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094498

Date Prep: 07.03.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	662	5.05	mg/kg	07.05.19 12.16		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094458

Date Prep: 07.03.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.04.19 01.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.04.19 01.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.04.19 01.22	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.04.19 01.22	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.04.19 01.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	07.04.19 01.22	
o-Terphenyl	84-15-1	80	%	70-135	07.04.19 01.22	



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH17**
Lab Sample Id: 629716-007

Matrix: Soil
Date Collected: 07.01.19 12.55

Date Received: 07.02.19 08.05
Sample Depth: 1.0 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094635

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 14.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.08.19 03.32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.08.19 03.32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.08.19 03.32	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.08.19 03.32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.08.19 03.32	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.08.19 03.32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.08.19 03.32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	85	%	70-130	07.08.19 03.32		
4-Bromofluorobenzene	460-00-4	145	%	70-130	07.08.19 03.32	**	



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH17A**
Lab Sample Id: 629716-008

Matrix: Soil
Date Collected: 07.01.19 13.05

Date Received: 07.02.19 08.05
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094498

Date Prep: 07.03.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	361	5.00	mg/kg	07.05.19 12.24		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094458

Date Prep: 07.03.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.04.19 01.46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.04.19 01.46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.04.19 01.46	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.04.19 01.46	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.04.19 01.46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	07.04.19 01.46	
o-Terphenyl	84-15-1	95	%	70-135	07.04.19 01.46	



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH17A**
Lab Sample Id: 629716-008

Matrix: Soil
Date Collected: 07.01.19 13.05

Date Received: 07.02.19 08.05
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094635

Date Prep: 07.05.19 14.30

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.08.19 03.55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.08.19 03.55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.08.19 03.55	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.08.19 03.55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.08.19 03.55	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.08.19 03.55	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.08.19 03.55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	122	%	70-130	07.08.19 03.55		
1,4-Difluorobenzene	540-36-3	92	%	70-130	07.08.19 03.55		



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH18**
Lab Sample Id: 629716-009

Matrix: Soil
Date Collected: 07.01.19 14.02

Date Received: 07.02.19 08.05
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094498

Date Prep: 07.03.19 15.40

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	512	5.00	mg/kg	07.05.19 12.31		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094458

Date Prep: 07.03.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.04.19 02.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.04.19 02.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.04.19 02.11	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.04.19 02.11	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.04.19 02.11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	07.04.19 02.11	
o-Terphenyl	84-15-1	98	%	70-135	07.04.19 02.11	



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH18**
Lab Sample Id: 629716-009

Matrix: Soil
Date Collected: 07.01.19 14.02

Date Received: 07.02.19 08.05
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094635

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 14.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.08.19 04.18	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.08.19 04.18	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.08.19 04.18	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.08.19 04.18	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.08.19 04.18	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.08.19 04.18	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.08.19 04.18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.08.19 04.18		
4-Bromofluorobenzene	460-00-4	122	%	70-130	07.08.19 04.18		



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH18A**
Lab Sample Id: 629716-010

Matrix: Soil
Date Collected: 07.01.19 14.07

Date Received: 07.02.19 08.05
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094423

Date Prep: 07.03.19 16.15

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	115	4.98	mg/kg	07.03.19 18.44		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094458

Date Prep: 07.03.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.04.19 02.35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.04.19 02.35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.04.19 02.35	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.04.19 02.35	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.04.19 02.35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	07.04.19 02.35	
o-Terphenyl	84-15-1	97	%	70-135	07.04.19 02.35	



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH18A**
Lab Sample Id: 629716-010

Matrix: Soil
Date Collected: 07.01.19 14.07

Date Received: 07.02.19 08.05
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094635

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 14.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.08.19 04.41	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.08.19 04.41	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.08.19 04.41	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.08.19 04.41	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.08.19 04.41	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.08.19 04.41	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.08.19 04.41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	121	%	70-130	07.08.19 04.41		
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.08.19 04.41		



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH19**
Lab Sample Id: 629716-011

Matrix: Soil
Date Collected: 07.01.19 15.05

Date Received: 07.02.19 08.05
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094423

Date Prep: 07.03.19 16.15

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	142	4.96	mg/kg	07.03.19 18.49		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094458

Date Prep: 07.03.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.04.19 03.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	17.4	15.0	mg/kg	07.04.19 03.24		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.04.19 03.24	U	1
Total TPH	PHC635	17.4	15.0	mg/kg	07.04.19 03.24		1
Total GRO-DRO	PHC628	17.4	15.0	mg/kg	07.04.19 03.24		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	07.04.19 03.24	
o-Terphenyl	84-15-1	92	%	70-135	07.04.19 03.24	



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH19**
Lab Sample Id: 629716-011

Matrix: Soil
Date Collected: 07.01.19 15.05

Date Received: 07.02.19 08.05
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094667

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 15.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.07.19 05.12	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.07.19 05.12	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.07.19 05.12	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.07.19 05.12	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.07.19 05.12	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.07.19 05.12	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.07.19 05.12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	70-130	07.07.19 05.12		
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.07.19 05.12		



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH19A**
Lab Sample Id: 629716-012

Matrix: Soil
Date Collected: 07.01.19 15.18

Date Received: 07.02.19 08.05
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094423

Date Prep: 07.03.19 16.15

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.1	5.00	mg/kg	07.03.19 18.53		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094458

Date Prep: 07.03.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.04.19 03.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.04.19 03.48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.04.19 03.48	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.04.19 03.48	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.04.19 03.48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	07.04.19 03.48	
o-Terphenyl	84-15-1	83	%	70-135	07.04.19 03.48	



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH19A**
Lab Sample Id: 629716-012

Matrix: Soil
Date Collected: 07.01.19 15.18

Date Received: 07.02.19 08.05
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094667

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 15.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.07.19 05.34	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.07.19 05.34	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.07.19 05.34	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.07.19 05.34	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.07.19 05.34	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.07.19 05.34	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.07.19 05.34	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	07.07.19 05.34		
4-Bromofluorobenzene	460-00-4	120	%	70-130	07.07.19 05.34		



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH20**
Lab Sample Id: 629716-013

Matrix: Soil
Date Collected: 07.01.19 15.55

Date Received: 07.02.19 08.05
Sample Depth: 3 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094423

Date Prep: 07.03.19 16.15

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	669	4.95	mg/kg	07.03.19 18.58		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094458

Date Prep: 07.03.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.04.19 04.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.04.19 04.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.04.19 04.12	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.04.19 04.12	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.04.19 04.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	07.04.19 04.12	
o-Terphenyl	84-15-1	93	%	70-135	07.04.19 04.12	



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH20**
Lab Sample Id: 629716-013

Matrix: Soil
Date Collected: 07.01.19 15.55

Date Received: 07.02.19 08.05
Sample Depth: 3 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094667

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 15.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.07.19 05.56	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.07.19 05.56	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.07.19 05.56	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.07.19 05.56	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.07.19 05.56	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.07.19 05.56	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.07.19 05.56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.07.19 05.56		
4-Bromofluorobenzene	460-00-4	109	%	70-130	07.07.19 05.56		



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH20A**
Lab Sample Id: 629716-014

Matrix: Soil
Date Collected: 07.01.19 16.45

Date Received: 07.02.19 08.05
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094423

Date Prep: 07.03.19 16.15

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.7	5.04	mg/kg	07.03.19 19.13		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094458

Date Prep: 07.03.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.04.19 04.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.04.19 04.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.04.19 04.37	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.04.19 04.37	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.04.19 04.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	07.04.19 04.37	
o-Terphenyl	84-15-1	77	%	70-135	07.04.19 04.37	



Certificate of Analytical Results 629716

LT Environmental, Inc., Arvada, CO

PLU 23DTD 1084

Sample Id: **PH20A**
Lab Sample Id: 629716-014

Matrix: Soil
Date Collected: 07.01.19 16.45

Date Received: 07.02.19 08.05
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094667

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 15.30

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.07.19 06.18	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.07.19 06.18	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.07.19 06.18	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.07.19 06.18	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.07.19 06.18	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.07.19 06.18	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.07.19 06.18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	95	%	70-130	07.07.19 06.18		
4-Bromofluorobenzene	460-00-4	109	%	70-130	07.07.19 06.18		



Flagging Criteria

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

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

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU 23DTD 1084

Analytical Method: Chloride by EPA 300

Seq Number: 3094498

MB Sample Id: 7681372-1-BLK

Matrix: Solid

LCS Sample Id: 7681372-1-BKS

Prep Method: E300P

Date Prep: 07.03.19

LCSD Sample Id: 7681372-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	229	92	230	92	90-110	0	20	mg/kg	07.05.19 09:01	

Analytical Method: Chloride by EPA 300

Seq Number: 3094423

MB Sample Id: 7681374-1-BLK

Matrix: Solid

LCS Sample Id: 7681374-1-BKS

Prep Method: E300P

Date Prep: 07.03.19

LCSD Sample Id: 7681374-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	239	96	239	96	90-110	0	20	mg/kg	07.03.19 18:20	

Analytical Method: Chloride by EPA 300

Seq Number: 3094498

Parent Sample Id: 629823-001

Matrix: Soil

MS Sample Id: 629823-001 S

Prep Method: E300P

Date Prep: 07.03.19

MSD Sample Id: 629823-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	430	248	684	102	683	102	90-110	0	20	mg/kg	07.05.19 09:22	

Analytical Method: Chloride by EPA 300

Seq Number: 3094498

Parent Sample Id: 629823-006

Matrix: Soil

MS Sample Id: 629823-006 S

Prep Method: E300P

Date Prep: 07.03.19

MSD Sample Id: 629823-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	158	252	433	109	434	110	90-110	0	20	mg/kg	07.05.19 11:04	

Analytical Method: Chloride by EPA 300

Seq Number: 3094423

Parent Sample Id: 629653-048

Matrix: Soil

MS Sample Id: 629653-048 S

Prep Method: E300P

Date Prep: 07.03.19

MSD Sample Id: 629653-048 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	10.5	252	268	102	269	103	90-110	0	20	mg/kg	07.03.19 18:34	

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

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

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

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



LT Environmental, Inc.

PLU 23DTD 1084

Analytical Method: Chloride by EPA 300

Seq Number: 3094423

Parent Sample Id: 629653-049

Matrix: Soil

MS Sample Id: 629653-049 S

Prep Method: E300P

Date Prep: 07.03.19

MSD Sample Id: 629653-049 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	12.0	250	268	102	265	101	90-110	1	20	mg/kg	07.03.19 19:42	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3094458

MB Sample Id: 7681379-1-BLK

Matrix: Solid

LCS Sample Id: 7681379-1-BKS

Prep Method: TX1005P

Date Prep: 07.03.19

LCSD Sample Id: 7681379-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1140	114	1120	112	70-135	2	20	mg/kg	07.03.19 21:19	
Diesel Range Organics (DRO)	<8.13	1000	1140	114	1140	114	70-135	0	20	mg/kg	07.03.19 21:19	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		103		100		70-135	%	07.03.19 21:19
o-Terphenyl	91		103		107		70-135	%	07.03.19 21:19

Analytical Method: TPH by SW8015 Mod

Seq Number: 3094458

Parent Sample Id: 629716-001

Matrix: Soil

MS Sample Id: 629716-001 S

Prep Method: TX1005P

Date Prep: 07.03.19

MSD Sample Id: 629716-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	11.5	998	1070	106	1170	116	70-135	9	20	mg/kg	07.03.19 22:33	
Diesel Range Organics (DRO)	10.3	998	1080	107	1210	120	70-135	11	20	mg/kg	07.03.19 22:33	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	92		101		70-135	%	07.03.19 22:33
o-Terphenyl	100		108		70-135	%	07.03.19 22:33

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

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

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

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



LT Environmental, Inc.

PLU 23DTD 1084

Analytical Method: BTEX by EPA 8021B

Seq Number: 3094635

MB Sample Id: 7681457-1-BLK

Matrix: Solid

LCS Sample Id: 7681457-1-BKS

Prep Method: SW5030B

Date Prep: 07.05.19

LCSD Sample Id: 7681457-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0880	89	0.0894	89	70-130	2	35	mg/kg	07.07.19 14:38	
Toluene	<0.00199	0.0994	0.100	101	0.102	101	70-130	2	35	mg/kg	07.07.19 14:38	
Ethylbenzene	<0.00199	0.0994	0.112	113	0.113	112	70-130	1	35	mg/kg	07.07.19 14:38	
m,p-Xylenes	<0.00101	0.199	0.221	111	0.221	110	70-130	0	35	mg/kg	07.07.19 14:38	
o-Xylene	<0.000342	0.0994	0.107	108	0.108	107	70-130	1	35	mg/kg	07.07.19 14:38	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		92		92		70-130	%	07.07.19 14:38
4-Bromofluorobenzene	112		108		112		70-130	%	07.07.19 14:38

Analytical Method: BTEX by EPA 8021B

Seq Number: 3094667

MB Sample Id: 7681458-1-BLK

Matrix: Solid

LCS Sample Id: 7681458-1-BKS

Prep Method: SW5030B

Date Prep: 07.05.19

LCSD Sample Id: 7681458-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0870	87	0.0956	96	70-130	9	35	mg/kg	07.07.19 08:10	
Toluene	<0.00200	0.0998	0.0847	85	0.0925	93	70-130	9	35	mg/kg	07.07.19 08:10	
Ethylbenzene	<0.00200	0.0998	0.0931	93	0.102	102	70-130	9	35	mg/kg	07.07.19 08:10	
m,p-Xylenes	<0.00399	0.200	0.186	93	0.206	103	70-130	10	35	mg/kg	07.07.19 08:10	
o-Xylene	<0.00200	0.0998	0.0916	92	0.102	102	70-130	11	35	mg/kg	07.07.19 08:10	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		94		99		70-130	%	07.07.19 08:10
4-Bromofluorobenzene	95		112		116		70-130	%	07.07.19 08:10

Analytical Method: BTEX by EPA 8021B

Seq Number: 3094635

Parent Sample Id: 629135-003

Matrix: Soil

MS Sample Id: 629135-003 S

Prep Method: SW5030B

Date Prep: 07.05.19

MSD Sample Id: 629135-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0701	71	0.0632	63	70-130	10	35	mg/kg	07.07.19 15:24	X
Toluene	<0.00199	0.0994	0.0785	79	0.0741	74	70-130	6	35	mg/kg	07.07.19 15:24	
Ethylbenzene	<0.00199	0.0994	0.0863	87	0.0829	83	70-130	4	35	mg/kg	07.07.19 15:24	
m,p-Xylenes	<0.00101	0.199	0.167	84	0.160	80	70-130	4	35	mg/kg	07.07.19 15:24	
o-Xylene	<0.00199	0.0994	0.0776	78	0.0764	77	70-130	2	35	mg/kg	07.07.19 15:24	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		94		70-130	%	07.07.19 15:24
4-Bromofluorobenzene	117		121		70-130	%	07.07.19 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



LT Environmental, Inc.

PLU 23DTD 1084

Analytical Method: BTEX by EPA 8021B

Seq Number: 3094667

Parent Sample Id: 629366-001

Matrix: Soil

MS Sample Id: 629366-001 S

Prep Method: SW5030B

Date Prep: 07.05.19

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0331	33	70-130	mg/kg	07.07.19 08:54	X
Toluene	<0.00200	0.100	0.0417	42	70-130	mg/kg	07.07.19 08:54	X
Ethylbenzene	<0.00200	0.100	0.0679	68	70-130	mg/kg	07.07.19 08:54	X
m,p-Xylenes	<0.00401	0.200	0.163	82	70-130	mg/kg	07.07.19 08:54	
o-Xylene	<0.00200	0.100	0.0626	63	70-130	mg/kg	07.07.19 08:54	X

Surrogate	MS %Rec	MS Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		70-130	%	07.07.19 08:54
4-Bromofluorobenzene	121		70-130	%	07.07.19 08:54

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

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

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

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



Chain of Custody

Work Order No:

62297file

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 506-3334
 Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Grapeland, TX (409) 704-5440
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8900 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Page 1 of 2

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental	Company Name:	KTD
Address:	3500 North A Street	Address:	3104 E. Greene Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carlsbad NM 88220
Phone:	432 236 3849	Email:	akyle@ktdenv.com

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

Project Name:	PLU 33 STD 1084	Turn Around		Pres. Code	
Project Number:	012019134	Routine	☐		
Project Location:	Eddy County	Rush:	3 days		
Sampler's Name:	Anna Byers	Due Date:			
PO #:	280-4870	Quote #:			

SAMPLE RECEIPT										Thermometer ID		Correction Factor		Total Containers	
Temperature (°C):		5.2		Temp Blank:		Yes ☐ No ☒		Wet Ice:		Yes ☐ No ☒		FNM-007		-0.2	
Received Intact:		Yes ☒ No ☐		Cooler Custody Seals:		Yes ☐ No ☒ N/A		Sample Custody Seals:		Yes ☐ No ☒ N/A					
Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers									
	PH14	S	7/1/19	0922	2'	1	TPH	BTE	Chlo						
	PH14A	S	↓	0927	4.5'	1	X	X	X						
	PH15	S		1030	0.5'	1	X	X	X						
	PH15A	S		1040	4.5'	1	X	X	X						
	PH16	S		1140	4.5'	1	X	X	X						
	PH16A	S		1207	8.0'	1	X	X	X						
	PH17	S		1255	1.0'	1	X	X	X						
	PH17A	S		1305	4.5'	1	X	X	X						
	PH18	S		1402	2'	1	X	X	X						
	PH18A	S	1407	4.5'	1	X	X	X							
														Sample Comments	

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	AKyle	07-02-19 0805			



Chain of Custody

Work Order No: 629716

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1286
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8900 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 699-6701

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Project Manager:	Dan Meir	Bill to: (if different)	Wyle Littrell
Company Name:	LT Environmental	Company Name:	KTD
Address:	3500 North A Street	Address:	3104 E. Greene Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carlsbad NM 88220
Phone:	432 236 3849	Email:	adyles@ltenv.com

Project Name:	PLU 35 DTD 1084	Turn Around		Pres. Code	
Project Number:	012919134	☐			
Project Location:	Edley County	Rush:	3 days		
Sampler's Name:	Anna Byers	Due Date:			
PO #:	282-4830	Quote #:			

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

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST	Preservative Codes	Sample Comments
	PH19	S	3/1/19	1505	0.5'	1	TPH (EPA 8012)	MeOH: Me	
	PH19A	S		1518	4.5'	1	BTEX (EPA 8021)	None: NO	
	PH20	S		1555	8'	1	EPA Chloride (300)	HNO3: HN	
	PH20A	S		1645	8'	1		H2SO4: H2	

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	[Signature]	07-02-17 0805			



Inter-Office Shipment

Page 1 of 2

IOS Number **42706**

Date/Time: 07/02/19 10:37

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

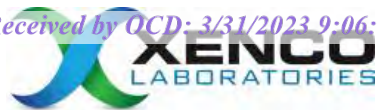
Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.: 775624086614

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
629716-001	S	PH14	07/01/19 09:22	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/15/19	JKR	GRO-DRO PHCC10C28 PF	
629716-001	S	PH14	07/01/19 09:22	SW8021B	BTEX by EPA 8021B	07/05/19	07/15/19	JKR	BR4FBZ BZ BZME EBZ X	
629716-001	S	PH14	07/01/19 09:22	E300_CL	Chloride by EPA 300	07/05/19	12/28/19	JKR	CL	
629716-002	S	PH14A	07/01/19 09:27	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/15/19	JKR	GRO-DRO PHCC10C28 PF	
629716-002	S	PH14A	07/01/19 09:27	SW8021B	BTEX by EPA 8021B	07/05/19	07/15/19	JKR	BR4FBZ BZ BZME EBZ X	
629716-002	S	PH14A	07/01/19 09:27	E300_CL	Chloride by EPA 300	07/05/19	12/28/19	JKR	CL	
629716-003	S	PH15	07/01/19 10:30	SW8021B	BTEX by EPA 8021B	07/05/19	07/15/19	JKR	BR4FBZ BZ BZME EBZ X	
629716-003	S	PH15	07/01/19 10:30	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/15/19	JKR	GRO-DRO PHCC10C28 PF	
629716-003	S	PH15	07/01/19 10:30	E300_CL	Chloride by EPA 300	07/05/19	12/28/19	JKR	CL	
629716-004	S	PH15A	07/01/19 10:40	E300_CL	Chloride by EPA 300	07/05/19	12/28/19	JKR	CL	
629716-004	S	PH15A	07/01/19 10:40	SW8021B	BTEX by EPA 8021B	07/05/19	07/15/19	JKR	BR4FBZ BZ BZME EBZ X	
629716-004	S	PH15A	07/01/19 10:40	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/15/19	JKR	GRO-DRO PHCC10C28 PF	
629716-005	S	PH16	07/01/19 11:40	E300_CL	Chloride by EPA 300	07/05/19	12/28/19	JKR	CL	
629716-005	S	PH16	07/01/19 11:40	SW8021B	BTEX by EPA 8021B	07/05/19	07/15/19	JKR	BR4FBZ BZ BZME EBZ X	
629716-005	S	PH16	07/01/19 11:40	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/15/19	JKR	GRO-DRO PHCC10C28 PF	
629716-006	S	PH16A	07/01/19 12:07	E300_CL	Chloride by EPA 300	07/05/19	12/28/19	JKR	CL	
629716-006	S	PH16A	07/01/19 12:07	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/15/19	JKR	GRO-DRO PHCC10C28 PF	
629716-006	S	PH16A	07/01/19 12:07	SW8021B	BTEX by EPA 8021B	07/05/19	07/15/19	JKR	BR4FBZ BZ BZME EBZ X	
629716-007	S	PH17	07/01/19 12:55	SW8021B	BTEX by EPA 8021B	07/05/19	07/15/19	JKR	BR4FBZ BZ BZME EBZ X	
629716-007	S	PH17	07/01/19 12:55	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/15/19	JKR	GRO-DRO PHCC10C28 PF	
629716-007	S	PH17	07/01/19 12:55	E300_CL	Chloride by EPA 300	07/05/19	12/28/19	JKR	CL	
629716-008	S	PH17A	07/01/19 13:05	SW8021B	BTEX by EPA 8021B	07/05/19	07/15/19	JKR	BR4FBZ BZ BZME EBZ X	
629716-008	S	PH17A	07/01/19 13:05	E300_CL	Chloride by EPA 300	07/05/19	12/28/19	JKR	CL	
629716-008	S	PH17A	07/01/19 13:05	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/15/19	JKR	GRO-DRO PHCC10C28 PF	
629716-009	S	PH18	07/01/19 14:02	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/15/19	JKR	GRO-DRO PHCC10C28 PF	



Inter-Office Shipment

Page 2 of 2

IOS Number **42706**

Date/Time: 07/02/19 10:37

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.: 775624086614

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
629716-009	S	PH18	07/01/19 14:02	SW8021B	BTEX by EPA 8021B	07/05/19	07/15/19	JKR	BR4FBZ BZ BZME EBZ X	
629716-009	S	PH18	07/01/19 14:02	E300_CL	Chloride by EPA 300	07/05/19	12/28/19	JKR	CL	
629716-010	S	PH18A	07/01/19 14:07	SW8021B	BTEX by EPA 8021B	07/05/19	07/15/19	JKR	BR4FBZ BZ BZME EBZ X	
629716-010	S	PH18A	07/01/19 14:07	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/15/19	JKR	GRO-DRO PHCC10C28 PF	
629716-010	S	PH18A	07/01/19 14:07	E300_CL	Chloride by EPA 300	07/05/19	12/28/19	JKR	CL	
629716-011	S	PH19	07/01/19 15:05	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/15/19	JKR	GRO-DRO PHCC10C28 PF	
629716-011	S	PH19	07/01/19 15:05	E300_CL	Chloride by EPA 300	07/05/19	12/28/19	JKR	CL	
629716-011	S	PH19	07/01/19 15:05	SW8021B	BTEX by EPA 8021B	07/05/19	07/15/19	JKR	BR4FBZ BZ BZME EBZ X	
629716-012	S	PH19A	07/01/19 15:18	SW8021B	BTEX by EPA 8021B	07/05/19	07/15/19	JKR	BR4FBZ BZ BZME EBZ X	
629716-012	S	PH19A	07/01/19 15:18	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/15/19	JKR	GRO-DRO PHCC10C28 PF	
629716-012	S	PH19A	07/01/19 15:18	E300_CL	Chloride by EPA 300	07/05/19	12/28/19	JKR	CL	
629716-013	S	PH20	07/01/19 15:55	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/15/19	JKR	GRO-DRO PHCC10C28 PF	
629716-013	S	PH20	07/01/19 15:55	SW8021B	BTEX by EPA 8021B	07/05/19	07/15/19	JKR	BR4FBZ BZ BZME EBZ X	
629716-013	S	PH20	07/01/19 15:55	E300_CL	Chloride by EPA 300	07/05/19	12/28/19	JKR	CL	
629716-014	S	PH20A	07/01/19 16:45	E300_CL	Chloride by EPA 300	07/05/19	12/28/19	JKR	CL	
629716-014	S	PH20A	07/01/19 16:45	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/15/19	JKR	GRO-DRO PHCC10C28 PF	
629716-014	S	PH20A	07/01/19 16:45	SW8021B	BTEX by EPA 8021B	07/05/19	07/15/19	JKR	BR4FBZ BZ BZME EBZ X	

Inter Office Shipment or Sample Comments:

Relinquished By:

Elizabeth McClellan

Received By:

Brianna Teel

Date Relinquished: 07/02/2019

Date Received: 07/03/2019 11:28

Cooler Temperature: 0.4



XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 42706

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sent By: Elizabeth McClellan

Date Sent: 07/02/2019 10:37 AM

Received By: Brianna Teel

Date Received: 07/03/2019 11:28 AM

Sample Receipt Checklist

Comments

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

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Brianna Teel

Date: 07/03/2019



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 07/02/2019 08:05:00 AM

Work Order #: 629716

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	5.2
#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)?	Yes
#18 Water VOC samples have zero headspace?	N/A

Subbed to Xenco Midland.

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 07/02/2019

Checklist reviewed by:

Jessica Kramer

Date: 07/06/2019

Analytical Report 629977

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 23 DTD 108H

012919134

08-JUL-19

Collected By: Client



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

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)

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

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

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

Xenco-Atlanta (LELAP Lab ID #04176)

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



08-JUL-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **629977**

PLU 23 DTD 108H

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) 629977. 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. 629977 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

A handwritten signature in black ink that reads 'Kalei Stout'.

Kalei Stout

Carlsbad Laboratory Director

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 629977

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW01	S	07-03-19 13:05	0.5 - 4.5 ft	629977-001



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 23 DTD 108H

Project ID: 012919134
Work Order Number(s): 629977

Report Date: 08-JUL-19
Date Received: 07/03/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3094564 BTEX by EPA 8021B

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



Certificate of Analysis Summary 629977

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108H

Project Id: 012919134

Contact: Dan Moir

Project Location: Eddy County

Date Received in Lab: Wed Jul-03-19 03:40 pm

Report Date: 08-JUL-19

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	629977-001					
	Field Id:	SW01					
	Depth:	0.5-4.5 ft					
	Matrix:	SOIL					
	Sampled:	Jul-03-19 13:05					
BTEX by EPA 8021B SUB: T104704400-18-16	Extracted:	Jul-05-19 13:00					
	Analyzed:	Jul-06-19 18:57					
	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:	Jul-05-19 12:00					
	Analyzed:	Jul-06-19 00:42					
	Units/RL:	mg/kg RL					
Chloride		194 5.03					
TPH by SW8015 Mod SUB: T104704400-18-16	Extracted:	Jul-05-19 14:00					
	Analyzed:	Jul-06-19 06:27					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0					
Diesel Range Organics (DRO)		239 15.0					
Motor Oil Range Hydrocarbons (MRO)		53.2 15.0					
Total TPH		292 15.0					
Total GRO-DRO		239 15.0					

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

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

Version: 1.0%

Kalei Stout
Carlsbad Laboratory Director



Certificate of Analytical Results 629977

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **SW01**
Lab Sample Id: 629977-001

Matrix: Soil
Date Collected: 07.03.19 13.05

Date Received: 07.03.19 15.40
Sample Depth: 0.5 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094583

Date Prep: 07.05.19 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	194	5.03	mg/kg	07.06.19 00.42		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094605

Date Prep: 07.05.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.06.19 06.27	U	1
Diesel Range Organics (DRO)	C10C28DRO	239	15.0	mg/kg	07.06.19 06.27		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	53.2	15.0	mg/kg	07.06.19 06.27		1
Total TPH	PHC635	292	15.0	mg/kg	07.06.19 06.27		1
Total GRO-DRO	PHC628	239	15.0	mg/kg	07.06.19 06.27		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	07.06.19 06.27	
o-Terphenyl	84-15-1	100	%	70-135	07.06.19 06.27	



Certificate of Analytical Results 629977

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **SW01**
Lab Sample Id: 629977-001

Matrix: Soil
Date Collected: 07.03.19 13.05

Date Received: 07.03.19 15.40
Sample Depth: 0.5 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094564

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.06.19 18.57	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.06.19 18.57	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.06.19 18.57	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.06.19 18.57	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.06.19 18.57	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.06.19 18.57	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.06.19 18.57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	117	%	70-130	07.06.19 18.57		
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.06.19 18.57		



Flagging Criteria

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

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

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU 23 DTD 108H

Analytical Method: Chloride by EPA 300

Seq Number: 3094583

MB Sample Id: 7681419-1-BLK

Matrix: Solid

LCS Sample Id: 7681419-1-BKS

Prep Method: E300P

Date Prep: 07.05.19

LCSD Sample Id: 7681419-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	262	105	262	105	90-110	0	20	mg/kg	07.06.19 00:28	

Analytical Method: Chloride by EPA 300

Seq Number: 3094583

Parent Sample Id: 629977-001

Matrix: Soil

MS Sample Id: 629977-001 S

Prep Method: E300P

Date Prep: 07.05.19

MSD Sample Id: 629977-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	194	252	443	99	443	99	90-110	0	20	mg/kg	07.06.19 00:50	

Analytical Method: Chloride by EPA 300

Seq Number: 3094583

Parent Sample Id: 629979-010

Matrix: Soil

MS Sample Id: 629979-010 S

Prep Method: E300P

Date Prep: 07.05.19

MSD Sample Id: 629979-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	47.2	253	308	103	308	103	90-110	0	20	mg/kg	07.06.19 02:31	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3094605

MB Sample Id: 7681479-1-BLK

Matrix: Solid

LCS Sample Id: 7681479-1-BKS

Prep Method: TX1005P

Date Prep: 07.05.19

LCSD Sample Id: 7681479-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1140	114	1090	109	70-135	4	20	mg/kg	07.05.19 20:48	
Diesel Range Organics (DRO)	<8.13	1000	1170	117	1150	115	70-135	2	20	mg/kg	07.05.19 20:48	

Surrogate

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	124		95		89		70-135	%	07.05.19 20:48
o-Terphenyl	101		89		81		70-135	%	07.05.19 20:48

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



LT Environmental, Inc.

PLU 23 DTD 108H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3094605

Parent Sample Id: 629979-001

Matrix: Soil

MS Sample Id: 629979-001 S

Prep Method: TX1005P

Date Prep: 07.05.19

MSD Sample Id: 629979-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	10.3	996	1180	117	1180	117	70-135	0	20	mg/kg	07.05.19 22:01	
Diesel Range Organics (DRO)	12.3	996	1120	111	1190	118	70-135	6	20	mg/kg	07.05.19 22:01	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		105		70-135	%	07.05.19 22:01
o-Terphenyl	101		92		70-135	%	07.05.19 22:01

Analytical Method: BTEX by EPA 8021B

Seq Number: 3094564

MB Sample Id: 7681453-1-BLK

Matrix: Solid

LCS Sample Id: 7681453-1-BKS

Prep Method: SW5030B

Date Prep: 07.05.19

LCSD Sample Id: 7681453-1-BSO

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0860	86	0.0854	85	70-130	1	35	mg/kg	07.06.19 04:08	
Toluene	<0.00200	0.100	0.105	105	0.102	101	70-130	3	35	mg/kg	07.06.19 04:08	
Ethylbenzene	<0.00200	0.100	0.121	121	0.117	116	70-130	3	35	mg/kg	07.06.19 04:08	
m,p-Xylenes	<0.00400	0.200	0.241	121	0.232	115	70-130	4	35	mg/kg	07.06.19 04:08	
o-Xylene	<0.00200	0.100	0.116	116	0.111	110	70-130	4	35	mg/kg	07.06.19 04:08	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		89		89		70-130	%	07.06.19 04:08
4-Bromofluorobenzene	109		117		112		70-130	%	07.06.19 04:08

Analytical Method: BTEX by EPA 8021B

Seq Number: 3094564

Parent Sample Id: 629979-001

Matrix: Soil

MS Sample Id: 629979-001 S

Prep Method: SW5030B

Date Prep: 07.05.19

MSD Sample Id: 629979-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0821	82	0.0844	85	70-130	3	35	mg/kg	07.06.19 04:54	
Toluene	<0.00199	0.0996	0.0959	96	0.0950	96	70-130	1	35	mg/kg	07.06.19 04:54	
Ethylbenzene	<0.00199	0.0996	0.107	107	0.104	105	70-130	3	35	mg/kg	07.06.19 04:54	
m,p-Xylenes	<0.00398	0.199	0.209	105	0.205	103	70-130	2	35	mg/kg	07.06.19 04:54	
o-Xylene	<0.00199	0.0996	0.100	100	0.0982	99	70-130	2	35	mg/kg	07.06.19 04:54	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		95		70-130	%	07.06.19 04:54
4-Bromofluorobenzene	116		114		70-130	%	07.06.19 04:54

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

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

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

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



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
Phoenix, AZ (480) 335-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

www.xenco.com

Page 1 of 1

Chain of Custody

Work Order No: 6029977

Project Manager:	Don Moir		Bill to: (if different)	Kyle Little
Company Name:	LT Environmental		Company Name:	XTB
Address:	3300 North A Street		Address:	8164 E. Greene Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carlsbad NM 88728	
Phone:	432 230 3849	Email:	abigail@ltenv.com	

Work Order Comments

Program: UST/PST ☐ PRP ☐ Brownfields ☐ RRC ☐ Superfund ☐

State of Project:

Reporting: Level II ☐ Level III ☐ PST/UST ☐ TRRP ☐ Level IV ☐

Deliverables: EDD ☐ ADaPT ☐ Other: _____

Project Name:		PLUGS DTD 108 H					
Project Number:		012919134					
Project Location:		Eddy County					
Sampler's Name:		Anna Byars					
PO #:		222-4870		Quote #:			
Turn Around		Routine		☐		Pres. Code	
Rush:		same day					
Due Date:							

SAMPLE RECEIPT		Temp Blank:		Yes	No	Wet Ice:	Yes	No
Temperature (°C):		5.8				Thermometer ID		
Received intact:		Yes		No		T-NM-007		
Cooler Custody Seals:		Yes		No		Correction Factor:		-0.2
Sample Custody Seals:		Yes		No		Total Containers:		1

Number of Containers

(EPA 8015)

EX (EPA 802)

oxide (300)

NaOH: Na

Zn Acetate+ NaOH: Zn

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

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TP+	BT	Chl	Sample Comments
SW01		S	7/3/19	1205	0.5-4.5'	1	x	x	x	

Total	200.7 / 6010	200.8 / 6020:
-------	--------------	---------------

8RCRA 13PPM 1exas 11 Al 30 As Ba Be B Ca Ca Cl Co Cu Cr Fe Ga Ge Hg I K Li Mn Na Ni Pb Se Ag Ti U
1631 / 245.1 / 7470 / 7471 : Hg

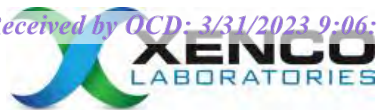
Circle Method(s) and Metal(s) to be analyzed

TCLP/SPL 6010: 8RCRA Sb AS Ba Be Cd Cl Co Cu Fb Mn Mw Ni Os Y

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

OF RAINCO. A minimum charge of \$15000					Date/Time
Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <i>Diana Bayar</i>	<i>delas</i>	070319 15:40			
2			4		
3			5		
4					
5					

Revised Date 022819 Rev. 20



Inter-Office Shipment

Page 1 of 1

IOS Number **42818**

Date/Time: 07/03/19 16:49

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.: 775636672857

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
629977-001	S	SW01	07/03/19 13:05	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/17/19	JKR	GRO-DRO PHCC10C28 PF	
629977-001	S	SW01	07/03/19 13:05	SW8021B	BTEX by EPA 8021B	07/05/19	07/17/19	JKR	BR4FBZ BZ BZME EBZ X	
629977-001	S	SW01	07/03/19 13:05	E300_Select	Select Anions By EPA 300	07/05/19	07/05/19 13:05	JKR	NO2N NO3N SO4	

Inter Office Shipment or Sample Comments:

Relinquished By:

Elizabeth McClellan

Date Relinquished: 07/03/2019

Received By:

Brianna Teel

Date Received: 07/05/2019 10:45

Cooler Temperature: 5.8



XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 42818

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sent By: Elizabeth McClellan

Date Sent: 07/03/2019 04:49 PM

Received By: Brianna Teel

Date Received: 07/05/2019 10:45 AM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	5.8
#2 *Shipping container in good condition?	Yes
#3 *Samples received with appropriate temperature?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 *Custody Seals Signed and dated for Containers/coolers	Yes
#6 *IOS present?	Yes
#7 Any missing/extra samples?	No
#8 IOS agrees with sample label(s)/matrix?	Yes
#9 Sample matrix/ properties agree with IOS?	Yes
#10 Samples in proper container/ bottle?	Yes
#11 Samples properly preserved?	Yes
#12 Sample container(s) intact?	Yes
#13 Sufficient sample amount for indicated test(s)?	Yes
#14 All samples received within hold time?	Yes

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Brianna Teel

Date: 07/05/2019



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 07/03/2019 03:40:00 PM

Work Order #: 629977

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	5.8
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#5 Custody Seals intact on sample bottles?	No
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	Yes
#18 Water VOC samples have zero headspace?	N/A

Subbed to Xenco Midland.

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 07/03/2019

Checklist reviewed by:

Kalei Stout

Date: 07/08/2019

Analytical Report 629979

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 23 DTD 108H

012919134

08-JUL-19

Collected By: Client



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

Xenco-Houston (EPA Lab Code: TX00122):

Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab Code: TX01468):

Texas (T104704295-19-19), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-18-14)

Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-20)

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

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

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

Xenco-Atlanta (LELAP Lab ID #04176)

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



08-JUL-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **629979**

PLU 23 DTD 108H

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) 629979. 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. 629979 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

A handwritten signature in black ink that reads 'Kalei Stout'.

Kalei Stout

Carlsbad Laboratory Director

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 629979****LT Environmental, Inc., Arvada, CO**

PLU 23 DTD 108H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH21	S	07-02-19 11:15	2 ft	629979-001
PH21A	S	07-02-19 11:25	4.5 ft	629979-002
PH22	S	07-02-19 11:45	0.5 ft	629979-003
PH22A	S	07-02-19 12:05	4.5 ft	629979-004
PH23	S	07-02-19 12:35	1 ft	629979-005
PH23A	S	07-02-19 12:48	6 ft	629979-006
PH24	S	07-02-19 13:10	0.5 ft	629979-007
PH24A	S	07-02-19 13:20	4.5 ft	629979-008
PH25	S	07-02-19 13:25	0.5 ft	629979-009
PH25A	S	07-02-19 13:35	4.5 ft	629979-010



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 23 DTD 108H

Project ID: 012919134
Work Order Number(s): 629979

Report Date: 08-JUL-19
Date Received: 07/03/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3094564 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: 629979-005,629979-010,629979-008.



Certificate of Analysis Summary 629979

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108H

Project Id: 012919134

Contact: Dan Moir

Project Location: Eddy County

Date Received in Lab: Wed Jul-03-19 03:40 pm

Report Date: 08-JUL-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	629979-001	629979-002	629979-003	629979-004	629979-005	629979-006
	<i>Field Id:</i>	PH21	PH21A	PH22	PH22A	PH23	PH23A
	<i>Depth:</i>	2- ft	4.5- ft	0.5- ft	4.5- ft	1- ft	6- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jul-02-19 11:15	Jul-02-19 11:25	Jul-02-19 11:45	Jul-02-19 12:05	Jul-02-19 12:35	Jul-02-19 12:48
BTEX by EPA 8021B SUB: T104704400-18-16	<i>Extracted:</i>	Jul-05-19 13:00	Jul-05-19 13:00	Jul-05-19 13:00	Jul-05-19 13:00	Jul-05-19 13:00	Jul-05-19 13:00
	<i>Analyzed:</i>	Jul-06-19 12:10	Jul-06-19 12:33	Jul-06-19 06:56	Jul-06-19 12:56	Jul-06-19 07:42	Jul-06-19 13:19
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	0.00533 0.00201	<0.00200 0.00200
m,p-Xylenes		<0.00401 0.00401	<0.00402 0.00402	<0.00402 0.00402	<0.00401 0.00401	0.0253 0.00402	<0.00401 0.00401
o-Xylene		<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	0.0195 0.00201	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	0.0448 0.00201	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00200 0.00200	0.0501 0.00201	<0.00200 0.00200
Chloride by EPA 300 SUB: T104704400-18-16	<i>Extracted:</i>	Jul-05-19 12:00	Jul-05-19 12:00	Jul-05-19 12:00	Jul-05-19 12:00	Jul-05-19 12:00	Jul-05-19 12:00
	<i>Analyzed:</i>	Jul-06-19 01:04	Jul-06-19 01:11	Jul-06-19 01:19	Jul-06-19 01:26	Jul-06-19 01:48	Jul-06-19 01:55
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		348 4.96	124 5.00	302 4.99	27.8 5.05	246 5.05	23.9 4.98
TPH by SW8015 Mod SUB: T104704400-18-16	<i>Extracted:</i>	Jul-05-19 14:00	Jul-05-19 14:00	Jul-05-19 14:00	Jul-05-19 14:00	Jul-05-19 14:00	Jul-05-19 14:00
	<i>Analyzed:</i>	Jul-05-19 21:37	Jul-05-19 22:50	Jul-05-19 23:14	Jul-05-19 23:38	Jul-06-19 09:41	Jul-06-19 00:26
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	259 74.8	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	6980 74.8	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	171 74.8	<15.0 15.0
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	7410 74.8	<15.0 15.0
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	7240 74.8	<15.0 15.0

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

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

Kalei Stout
Carlsbad Laboratory Director



Certificate of Analysis Summary 629979

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108H

Project Id: 012919134

Contact: Dan Moir

Project Location: Eddy County

Date Received in Lab: Wed Jul-03-19 03:40 pm

Report Date: 08-JUL-19

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	629979-007	629979-008	629979-009	629979-010		
	<i>Field Id:</i>	PH24	PH24A	PH25	PH25A		
	<i>Depth:</i>	0.5- ft	4.5- ft	0.5- ft	4.5- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Jul-02-19 13:10	Jul-02-19 13:20	Jul-02-19 13:25	Jul-02-19 13:35		
BTEX by EPA 8021B SUB: T104704400-18-16	<i>Extracted:</i>	Jul-05-19 13:00	Jul-05-19 13:00	Jul-05-19 13:00	Jul-05-19 13:00		
	<i>Analyzed:</i>	Jul-06-19 09:22	Jul-06-19 09:45	Jul-06-19 10:08	Jul-06-19 11:47		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202		
Toluene		<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202		
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202		
m,p-Xylenes		<0.00400 0.00400	<0.00402 0.00402	<0.00402 0.00402	<0.00403 0.00403		
o-Xylene		<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202		
Total Xylenes		<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202		
Total BTEX		<0.00200 0.00200	<0.00201 0.00201	<0.00201 0.00201	<0.00202 0.00202		
Chloride by EPA 300 SUB: T104704400-18-16	<i>Extracted:</i>	Jul-05-19 12:00	Jul-05-19 12:00	Jul-05-19 12:00	Jul-05-19 12:00		
	<i>Analyzed:</i>	Jul-06-19 02:02	Jul-06-19 02:09	Jul-06-19 02:17	Jul-06-19 02:24		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		<4.96 4.96	5.16 5.00	<4.99 4.99	47.2 5.05		
TPH by SW8015 Mod SUB: T104704400-18-16	<i>Extracted:</i>	Jul-05-19 14:00	Jul-05-19 14:00	Jul-05-19 14:00	Jul-05-19 14:00		
	<i>Analyzed:</i>	Jul-06-19 00:50	Jul-06-19 01:14	Jul-06-19 01:38	Jul-06-19 02:02		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		

This analytical report, and the entire data package it represents, has been made for your exclusive and confidential use.
The interpretations and results expressed throughout this analytical report represent the best judgment of XENCO Laboratories.
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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

Kalei Stout
Carlsbad Laboratory Director



Certificate of Analytical Results 629979

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH21**
Lab Sample Id: 629979-001

Matrix: Soil
Date Collected: 07.02.19 11.15

Date Received: 07.03.19 15.40
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094583

Date Prep: 07.05.19 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	348	4.96	mg/kg	07.06.19 01.04		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094605

Date Prep: 07.05.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.05.19 21.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.05.19 21.37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.05.19 21.37	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.05.19 21.37	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.05.19 21.37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	07.05.19 21.37	
o-Terphenyl	84-15-1	88	%	70-135	07.05.19 21.37	



Certificate of Analytical Results 629979

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH21**
Lab Sample Id: 629979-001

Matrix: Soil
Date Collected: 07.02.19 11.15

Date Received: 07.03.19 15.40
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094564

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.06.19 12.10	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.06.19 12.10	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.06.19 12.10	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.06.19 12.10	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.06.19 12.10	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.06.19 12.10	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.06.19 12.10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	70-130	07.06.19 12.10		
1,4-Difluorobenzene	540-36-3	93	%	70-130	07.06.19 12.10		



Certificate of Analytical Results 629979

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH21A** Matrix: Soil Date Received: 07.03.19 15.40
 Lab Sample Id: 629979-002 Date Collected: 07.02.19 11.25 Sample Depth: 4.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: CHE % Moisture:
 Analyst: CHE Date Prep: 07.05.19 12.00 Basis: Wet Weight
 Seq Number: 3094583 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	124	5.00	mg/kg	07.06.19 01.11		1

Analytical Method: TPH by SW8015 Mod Prep Method: TX1005P
 Tech: DVM % Moisture:
 Analyst: ARM Date Prep: 07.05.19 14.00 Basis: Wet Weight
 Seq Number: 3094605 SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.05.19 22.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.05.19 22.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.05.19 22.50	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.05.19 22.50	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.05.19 22.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	07.05.19 22.50	
o-Terphenyl	84-15-1	92	%	70-135	07.05.19 22.50	



Certificate of Analytical Results 629979

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH21A**
Lab Sample Id: 629979-002

Matrix: Soil
Date Collected: 07.02.19 11.25

Date Received: 07.03.19 15.40
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094564

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.06.19 12.33	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.06.19 12.33	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.06.19 12.33	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.06.19 12.33	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.06.19 12.33	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.06.19 12.33	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.06.19 12.33	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	70-130	07.06.19 12.33		
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.06.19 12.33		



Certificate of Analytical Results 629979

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH22**
Lab Sample Id: 629979-003

Matrix: Soil
Date Collected: 07.02.19 11.45

Date Received: 07.03.19 15.40
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094583

Date Prep: 07.05.19 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	302	4.99	mg/kg	07.06.19 01.19		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094605

Date Prep: 07.05.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.05.19 23.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.05.19 23.14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.05.19 23.14	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.05.19 23.14	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.05.19 23.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	07.05.19 23.14	
o-Terphenyl	84-15-1	93	%	70-135	07.05.19 23.14	



Certificate of Analytical Results 629979

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH22**
Lab Sample Id: 629979-003

Matrix: Soil
Date Collected: 07.02.19 11.45

Date Received: 07.03.19 15.40
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094564

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.06.19 06.56	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.06.19 06.56	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.06.19 06.56	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.06.19 06.56	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.06.19 06.56	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.06.19 06.56	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.06.19 06.56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	120	%	70-130	07.06.19 06.56		
1,4-Difluorobenzene	540-36-3	93	%	70-130	07.06.19 06.56		



Certificate of Analytical Results 629979

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH22A**
Lab Sample Id: 629979-004

Matrix: Soil
Date Collected: 07.02.19 12.05

Date Received: 07.03.19 15.40
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094583

Date Prep: 07.05.19 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	27.8	5.05	mg/kg	07.06.19 01.26		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094605

Date Prep: 07.05.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.05.19 23.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.05.19 23.38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.05.19 23.38	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.05.19 23.38	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.05.19 23.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	07.05.19 23.38	
o-Terphenyl	84-15-1	97	%	70-135	07.05.19 23.38	



Certificate of Analytical Results 629979

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH22A**
Lab Sample Id: 629979-004

Matrix: Soil
Date Collected: 07.02.19 12.05

Date Received: 07.03.19 15.40
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094564

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.06.19 12.56	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.06.19 12.56	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.06.19 12.56	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.06.19 12.56	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.06.19 12.56	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.06.19 12.56	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.06.19 12.56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	07.06.19 12.56		
1,4-Difluorobenzene	540-36-3	93	%	70-130	07.06.19 12.56		



Certificate of Analytical Results 629979

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH23**
Lab Sample Id: 629979-005

Matrix: Soil
Date Collected: 07.02.19 12.35

Date Received: 07.03.19 15.40
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094583

Date Prep: 07.05.19 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	246	5.05	mg/kg	07.06.19 01.48		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094605

Date Prep: 07.05.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	259	74.8	mg/kg	07.06.19 09.41		5
Diesel Range Organics (DRO)	C10C28DRO	6980	74.8	mg/kg	07.06.19 09.41		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	171	74.8	mg/kg	07.06.19 09.41		5
Total TPH	PHC635	7410	74.8	mg/kg	07.06.19 09.41		5
Total GRO-DRO	PHC628	7240	74.8	mg/kg	07.06.19 09.41		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	07.06.19 09.41	
o-Terphenyl	84-15-1	105	%	70-135	07.06.19 09.41	



Certificate of Analytical Results 629979

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH23**
Lab Sample Id: 629979-005

Matrix: Soil
Date Collected: 07.02.19 12.35

Date Received: 07.03.19 15.40
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094564

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.06.19 07.42	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.06.19 07.42	U	1
Ethylbenzene	100-41-4	0.00533	0.00201	mg/kg	07.06.19 07.42		1
m,p-Xylenes	179601-23-1	0.0253	0.00402	mg/kg	07.06.19 07.42		1
o-Xylene	95-47-6	0.0195	0.00201	mg/kg	07.06.19 07.42		1
Total Xylenes	1330-20-7	0.0448	0.00201	mg/kg	07.06.19 07.42		1
Total BTEX		0.0501	0.00201	mg/kg	07.06.19 07.42		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	74		%	70-130	07.06.19 07.42	
4-Bromofluorobenzene	460-00-4	157		%	70-130	07.06.19 07.42	**



Certificate of Analytical Results 629979

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH23A**
Lab Sample Id: 629979-006

Matrix: Soil
Date Collected: 07.02.19 12.48

Date Received: 07.03.19 15.40
Sample Depth: 6 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094583

Date Prep: 07.05.19 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.9	4.98	mg/kg	07.06.19 01.55		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094605

Date Prep: 07.05.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.06.19 00.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.06.19 00.26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.06.19 00.26	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.06.19 00.26	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.06.19 00.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	07.06.19 00.26	
o-Terphenyl	84-15-1	91	%	70-135	07.06.19 00.26	



Certificate of Analytical Results 629979

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH23A**
Lab Sample Id: 629979-006

Matrix: Soil
Date Collected: 07.02.19 12.48

Date Received: 07.03.19 15.40
Sample Depth: 6 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094564

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.06.19 13.19	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.06.19 13.19	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.06.19 13.19	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.06.19 13.19	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.06.19 13.19	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.06.19 13.19	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.06.19 13.19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.06.19 13.19		
4-Bromofluorobenzene	460-00-4	110	%	70-130	07.06.19 13.19		



Certificate of Analytical Results 629979

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH24**
Lab Sample Id: 629979-007

Matrix: Soil
Date Collected: 07.02.19 13.10

Date Received: 07.03.19 15.40
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094583

Date Prep: 07.05.19 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.96	4.96	mg/kg	07.06.19 02.02	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094605

Date Prep: 07.05.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.06.19 00.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.06.19 00.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.06.19 00.50	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.06.19 00.50	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.06.19 00.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	07.06.19 00.50	
o-Terphenyl	84-15-1	96	%	70-135	07.06.19 00.50	



Certificate of Analytical Results 629979

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH24**
Lab Sample Id: 629979-007

Matrix: Soil
Date Collected: 07.02.19 13.10

Date Received: 07.03.19 15.40
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094564

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.06.19 09.22	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.06.19 09.22	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.06.19 09.22	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.06.19 09.22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.06.19 09.22	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.06.19 09.22	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.06.19 09.22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	126	%	70-130	07.06.19 09.22		
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.06.19 09.22		



Certificate of Analytical Results 629979

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH24A**
Lab Sample Id: 629979-008

Matrix: Soil
Date Collected: 07.02.19 13.20

Date Received: 07.03.19 15.40
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094583

Date Prep: 07.05.19 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5.16	5.00	mg/kg	07.06.19 02.09		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094605

Date Prep: 07.05.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.06.19 01.14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.06.19 01.14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.06.19 01.14	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.06.19 01.14	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.06.19 01.14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	07.06.19 01.14	
o-Terphenyl	84-15-1	87	%	70-135	07.06.19 01.14	



Certificate of Analytical Results 629979

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH24A**
Lab Sample Id: 629979-008

Matrix: Soil
Date Collected: 07.02.19 13.20

Date Received: 07.03.19 15.40
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094564

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.06.19 09.45	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.06.19 09.45	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.06.19 09.45	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.06.19 09.45	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.06.19 09.45	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.06.19 09.45	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.06.19 09.45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	88	%	70-130	07.06.19 09.45		
4-Bromofluorobenzene	460-00-4	164	%	70-130	07.06.19 09.45	**	



Certificate of Analytical Results 629979

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH25**
Lab Sample Id: 629979-009

Matrix: Soil
Date Collected: 07.02.19 13.25

Date Received: 07.03.19 15.40
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094583

Date Prep: 07.05.19 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	07.06.19 02.17	U	1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094605

Date Prep: 07.05.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.06.19 01.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.06.19 01.38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.06.19 01.38	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.06.19 01.38	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.06.19 01.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	07.06.19 01.38	
o-Terphenyl	84-15-1	91	%	70-135	07.06.19 01.38	



Certificate of Analytical Results 629979

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH25**
Lab Sample Id: 629979-009

Matrix: Soil
Date Collected: 07.02.19 13.25

Date Received: 07.03.19 15.40
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094564

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.06.19 10.08	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.06.19 10.08	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.06.19 10.08	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.06.19 10.08	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.06.19 10.08	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.06.19 10.08	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.06.19 10.08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	95	%	70-130	07.06.19 10.08		
4-Bromofluorobenzene	460-00-4	118	%	70-130	07.06.19 10.08		



Certificate of Analytical Results 629979

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH25A**
Lab Sample Id: 629979-010

Matrix: Soil
Date Collected: 07.02.19 13.35

Date Received: 07.03.19 15.40
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094583

Date Prep: 07.05.19 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	47.2	5.05	mg/kg	07.06.19 02.24		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3094605

Date Prep: 07.05.19 14.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.06.19 02.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.06.19 02.02	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.06.19 02.02	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.06.19 02.02	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.06.19 02.02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	07.06.19 02.02	
o-Terphenyl	84-15-1	90	%	70-135	07.06.19 02.02	



Certificate of Analytical Results 629979

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **PH25A**
Lab Sample Id: 629979-010

Matrix: Soil
Date Collected: 07.02.19 13.35

Date Received: 07.03.19 15.40
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: AMB

Seq Number: 3094564

Prep Method: SW5030B

% Moisture:

Date Prep: 07.05.19 13.00

Basis: Wet Weight

SUB: T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.06.19 11.47	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.06.19 11.47	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.06.19 11.47	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	07.06.19 11.47	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.06.19 11.47	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.06.19 11.47	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.06.19 11.47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	84	%	70-130	07.06.19 11.47		
4-Bromofluorobenzene	460-00-4	136	%	70-130	07.06.19 11.47	**	



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU 23 DTD 108H

Analytical Method: Chloride by EPA 300

Seq Number: 3094583

MB Sample Id: 7681419-1-BLK

Matrix: Solid

LCS Sample Id: 7681419-1-BKS

Prep Method: E300P

Date Prep: 07.05.19

LCSD Sample Id: 7681419-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	262	105	262	105	90-110	0	20	mg/kg	07.06.19 00:28	

Analytical Method: Chloride by EPA 300

Seq Number: 3094583

Parent Sample Id: 629977-001

Matrix: Soil

MS Sample Id: 629977-001 S

Prep Method: E300P

Date Prep: 07.05.19

MSD Sample Id: 629977-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	194	252	443	99	443	99	90-110	0	20	mg/kg	07.06.19 00:50	

Analytical Method: Chloride by EPA 300

Seq Number: 3094583

Parent Sample Id: 629979-010

Matrix: Soil

MS Sample Id: 629979-010 S

Prep Method: E300P

Date Prep: 07.05.19

MSD Sample Id: 629979-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	47.2	253	308	103	308	103	90-110	0	20	mg/kg	07.06.19 02:31	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3094605

MB Sample Id: 7681479-1-BLK

Matrix: Solid

LCS Sample Id: 7681479-1-BKS

Prep Method: TX1005P

Date Prep: 07.05.19

LCSD Sample Id: 7681479-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1140	114	1090	109	70-135	4	20	mg/kg	07.05.19 20:48	
Diesel Range Organics (DRO)	<8.13	1000	1170	117	1150	115	70-135	2	20	mg/kg	07.05.19 20:48	

Surrogate

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	124		95		89		70-135	%	07.05.19 20:48
o-Terphenyl	101		89		81		70-135	%	07.05.19 20:48

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



LT Environmental, Inc.

PLU 23 DTD 108H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3094605

Parent Sample Id: 629979-001

Matrix: Soil

MS Sample Id: 629979-001 S

Prep Method: TX1005P

Date Prep: 07.05.19

MSD Sample Id: 629979-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	10.3	996	1180	117	1180	117	70-135	0	20	mg/kg	07.05.19 22:01	
Diesel Range Organics (DRO)	12.3	996	1120	111	1190	118	70-135	6	20	mg/kg	07.05.19 22:01	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	106		105		70-135	%	07.05.19 22:01
o-Terphenyl	101		92		70-135	%	07.05.19 22:01

Analytical Method: BTEX by EPA 8021B

Seq Number: 3094564

MB Sample Id: 7681453-1-BLK

Matrix: Solid

LCS Sample Id: 7681453-1-BKS

Prep Method: SW5030B

Date Prep: 07.05.19

LCSD Sample Id: 7681453-1-BSO

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0860	86	0.0854	85	70-130	1	35	mg/kg	07.06.19 04:08	
Toluene	<0.00200	0.100	0.105	105	0.102	101	70-130	3	35	mg/kg	07.06.19 04:08	
Ethylbenzene	<0.00200	0.100	0.121	121	0.117	116	70-130	3	35	mg/kg	07.06.19 04:08	
m,p-Xylenes	<0.00400	0.200	0.241	121	0.232	115	70-130	4	35	mg/kg	07.06.19 04:08	
o-Xylene	<0.00200	0.100	0.116	116	0.111	110	70-130	4	35	mg/kg	07.06.19 04:08	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		89		89		70-130	%	07.06.19 04:08
4-Bromofluorobenzene	109		117		112		70-130	%	07.06.19 04:08

Analytical Method: BTEX by EPA 8021B

Seq Number: 3094564

Parent Sample Id: 629979-001

Matrix: Soil

MS Sample Id: 629979-001 S

Prep Method: SW5030B

Date Prep: 07.05.19

MSD Sample Id: 629979-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0821	82	0.0844	85	70-130	3	35	mg/kg	07.06.19 04:54	
Toluene	<0.00199	0.0996	0.0959	96	0.0950	96	70-130	1	35	mg/kg	07.06.19 04:54	
Ethylbenzene	<0.00199	0.0996	0.107	107	0.104	105	70-130	3	35	mg/kg	07.06.19 04:54	
m,p-Xylenes	<0.00398	0.199	0.209	105	0.205	103	70-130	2	35	mg/kg	07.06.19 04:54	
o-Xylene	<0.00199	0.0996	0.100	100	0.0982	99	70-130	2	35	mg/kg	07.06.19 04:54	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	93		95		70-130	%	07.06.19 04:54
4-Bromofluorobenzene	116		114		70-130	%	07.06.19 04:54

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

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

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

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



Chain of Custody

Work Order No: 629979

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1236
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

www.xenco.com

Page 1 of 1

Project Manager:	Don Noir	Bill to: (if different)	Kyle Littrell
Company Name:	IT Environmental	Company Name:	XTD
Address:	3300 North A Street	Address:	3104 E. Greene Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Odessa NM 88220
Phone:	432 230 3849	Email:	abyers@itenvcom

Project Name:	PLU 25 DTD 138H	Turn Around	
Project Number:	012919134	Routine	☐
Project Location:	Eddy County	Rush:	Same day
Sampler's Name:	Anna Byers	Due Date:	
PO #:	22-4030	Quote #:	

Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	5.8°C		Thermometer ID		
Received Intact:	Yes	No	Correction Factor:	-0.2	
Cooler Custody Seals:	Yes	No	Total Containers:	10	
Sample Custody Seals:	Yes	No			

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth
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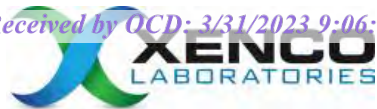
PH21	S	3/2/19	11:15	2'	1	
PH21A	S		11:25	4.5'	1	
PH22	S		11:45	0.5'	1	
PH22A	S		12:05	4.5'	1	
PH23	S		12:35	1'	1	
PH23A	S		12:48	6'	1	
PH24	S		13:10	0.5'	1	
PH24A	S		13:20	4.5'	1	
PH25	S		13:25	0.5'	1	
PH25A	S		13:35	4.5'	1	

Total 200.7 / 6010 200.8 / 6020:

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	[Signature]	070319 15:40			



Inter-Office Shipment

Page 1 of 2

IOS Number **42819**

Date/Time: 07/03/19 16:56

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

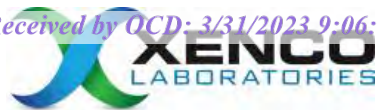
Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.: 775636672857

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
629979-001	S	PH21	07/03/19 11:15	SW8021B	BTEX by EPA 8021B	07/05/19	07/17/19	JKR	BR4FBZ BZ BZME EBZ X	
629979-001	S	PH21	07/03/19 11:15	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/17/19	JKR	GRO-DRO PHCC10C28 PF	
629979-001	S	PH21	07/03/19 11:15	E300_CL	Chloride by EPA 300	07/05/19	12/30/19	JKR	CL	
629979-002	S	PH21A	07/03/19 11:25	SW8021B	BTEX by EPA 8021B	07/05/19	07/17/19	JKR	BR4FBZ BZ BZME EBZ X	
629979-002	S	PH21A	07/03/19 11:25	E300_CL	Chloride by EPA 300	07/05/19	12/30/19	JKR	CL	
629979-002	S	PH21A	07/03/19 11:25	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/17/19	JKR	GRO-DRO PHCC10C28 PF	
629979-003	S	PH22	07/03/19 11:45	SW8021B	BTEX by EPA 8021B	07/05/19	07/17/19	JKR	BR4FBZ BZ BZME EBZ X	
629979-003	S	PH22	07/03/19 11:45	E300_CL	Chloride by EPA 300	07/05/19	12/30/19	JKR	CL	
629979-003	S	PH22	07/03/19 11:45	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/17/19	JKR	GRO-DRO PHCC10C28 PF	
629979-004	S	PH22A	07/03/19 12:05	SW8021B	BTEX by EPA 8021B	07/05/19	07/17/19	JKR	BR4FBZ BZ BZME EBZ X	
629979-004	S	PH22A	07/03/19 12:05	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/17/19	JKR	GRO-DRO PHCC10C28 PF	
629979-004	S	PH22A	07/03/19 12:05	E300_CL	Chloride by EPA 300	07/05/19	12/30/19	JKR	CL	
629979-005	S	PH23	07/03/19 12:35	SW8021B	BTEX by EPA 8021B	07/05/19	07/17/19	JKR	BR4FBZ BZ BZME EBZ X	
629979-005	S	PH23	07/03/19 12:35	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/17/19	JKR	GRO-DRO PHCC10C28 PF	
629979-005	S	PH23	07/03/19 12:35	E300_CL	Chloride by EPA 300	07/05/19	12/30/19	JKR	CL	
629979-006	S	PH23A	07/03/19 12:48	SW8021B	BTEX by EPA 8021B	07/05/19	07/17/19	JKR	BR4FBZ BZ BZME EBZ X	
629979-006	S	PH23A	07/03/19 12:48	E300_CL	Chloride by EPA 300	07/05/19	12/30/19	JKR	CL	
629979-006	S	PH23A	07/03/19 12:48	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/17/19	JKR	GRO-DRO PHCC10C28 PF	
629979-007	S	PH24	07/03/19 13:10	SW8021B	BTEX by EPA 8021B	07/05/19	07/17/19	JKR	BR4FBZ BZ BZME EBZ X	
629979-007	S	PH24	07/03/19 13:10	E300_CL	Chloride by EPA 300	07/05/19	12/30/19	JKR	CL	
629979-007	S	PH24	07/03/19 13:10	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/17/19	JKR	GRO-DRO PHCC10C28 PF	
629979-008	S	PH24A	07/03/19 13:20	E300_CL	Chloride by EPA 300	07/05/19	12/30/19	JKR	CL	
629979-008	S	PH24A	07/03/19 13:20	SW8021B	BTEX by EPA 8021B	07/05/19	07/17/19	JKR	BR4FBZ BZ BZME EBZ X	
629979-008	S	PH24A	07/03/19 13:20	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/17/19	JKR	GRO-DRO PHCC10C28 PF	
629979-009	S	PH25	07/03/19 13:25	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/17/19	JKR	GRO-DRO PHCC10C28 PF	



Inter-Office Shipment

Page 2 of 2

IOS Number **42819**

Date/Time: 07/03/19 16:56

Created by: Elizabeth McClellan

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.: 775636672857

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
629979-009	S	PH25	07/03/19 13:25	E300_CL	Chloride by EPA 300	07/05/19	12/30/19	JKR	CL	
629979-009	S	PH25	07/03/19 13:25	SW8021B	BTEX by EPA 8021B	07/05/19	07/17/19	JKR	BR4FBZ BZ BZME EBZ X	
629979-010	S	PH25A	07/03/19 13:35	SW8021B	BTEX by EPA 8021B	07/05/19	07/17/19	JKR	BR4FBZ BZ BZME EBZ X	
629979-010	S	PH25A	07/03/19 13:35	E300_CL	Chloride by EPA 300	07/05/19	12/30/19	JKR	CL	
629979-010	S	PH25A	07/03/19 13:35	SW8015MOD_NM	TPH by SW8015 Mod	07/05/19	07/17/19	JKR	GRO-DRO PHCC10C28 PF	

Inter Office Shipment or Sample Comments:

Relinquished By:

Elizabeth McClellan

Date Relinquished: 07/03/2019

Received By:

Brianna Teel

Date Received: 07/05/2019 10:45

Cooler Temperature: 5.8



XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 42819

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sent By: Elizabeth McClellan

Date Sent: 07/03/2019 04:56 PM

Received By: Brianna Teel

Date Received: 07/05/2019 10:45 AM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	5.8
#2 *Shipping container in good condition?	Yes
#3 *Samples received with appropriate temperature?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 *Custody Seals Signed and dated for Containers/coolers	Yes
#6 *IOS present?	Yes
#7 Any missing/extra samples?	No
#8 IOS agrees with sample label(s)/matrix?	Yes
#9 Sample matrix/ properties agree with IOS?	Yes
#10 Samples in proper container/ bottle?	Yes
#11 Samples properly preserved?	Yes
#12 Sample container(s) intact?	Yes
#13 Sufficient sample amount for indicated test(s)?	Yes
#14 All samples received within hold time?	Yes

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:

Brianna Teel

Date: 07/05/2019



XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 07/03/2019 03:40:00 PM

Work Order #: 629979

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist	Comments
#1 *Temperature of cooler(s)?	5.8
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	No
#5 Custody Seals intact on sample bottles?	No
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	Yes
#18 Water VOC samples have zero headspace?	N/A

Subbed to Xenco Midland.

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Elizabeth McClellan

Date: 07/03/2019

Checklist reviewed by:

Kalei Stout

Date: 07/08/2019

Analytical Report 630293

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 23 DTD 108 H

012919134

12-JUL-19

Collected By: Client



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

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

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

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



12-JUL-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **630293**

PLU 23 DTD 108 H

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) 630293. 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. 630293 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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

**Sample Cross Reference 630293****LT Environmental, Inc., Arvada, CO**

PLU 23 DTD 108 H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH26	S	07-08-19 13:58	1 ft	630293-001
PH26A	S	07-08-19 14:30	8 ft	630293-002
PH27	S	07-08-19 14:50	0.5 ft	630293-003
PH27A	S	07-08-19 14:55	4.5 ft	630293-004
PH28	S	07-08-19 15:30	0.5 ft	630293-005
PH28A	S	07-08-19 15:45	4.5 ft	630293-006



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 23 DTD 108 H

Project ID: 012919134
Work Order Number(s): 630293

Report Date: 12-JUL-19
Date Received: 07/09/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3095195 BTEX by EPA 8021B

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

Samples affected are: 630293-001.

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

Batch: LBA-3095232 TPH by SW8015 Mod

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

Samples affected are: 630293-002.



Certificate of Analysis Summary 630293

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108 H

Project Id: 012919134
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Tue Jul-09-19 04:45 pm
Report Date: 12-JUL-19
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	630293-001	630293-002	630293-003	630293-004	630293-005	630293-006
	Field Id:	PH26	PH26A	PH27	PH27A	PH28	PH28A
	Depth:	1- ft	8- ft	0.5- ft	4.5- ft	0.5- ft	4.5- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Jul-08-19 13:58	Jul-08-19 14:30	Jul-08-19 14:50	Jul-08-19 14:55	Jul-08-19 15:30	Jul-08-19 15:45
BTEX by EPA 8021B	Extracted:	Jul-10-19 09:50	Jul-10-19 09:50	Jul-10-19 09:50	Jul-10-19 09:50	Jul-10-19 09:50	Jul-10-19 09:50
	Analyzed:	Jul-12-19 05:48	Jul-12-19 00:11	Jul-12-19 00:33	Jul-12-19 00:55	Jul-12-19 03:58	Jul-12-19 01:17
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.0402 0.0402	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Toluene		<0.0402 0.0402	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Ethylbenzene		0.228 0.0402	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
m,p-Xylenes		1.18 0.0803	<0.00399 0.00399	<0.00400 0.00400	<0.00401 0.00401	<0.00402 0.00402	<0.00399 0.00399
o-Xylene		0.572 0.0402	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Total Xylenes		1.75 0.0402	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Total BTEX		1.98 0.0402	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Chloride by EPA 300	Extracted:	Jul-10-19 09:30	Jul-10-19 09:30	Jul-10-19 09:30	Jul-10-19 09:30	Jul-10-19 09:30	Jul-10-19 09:30
	Analyzed:	Jul-10-19 09:58	Jul-10-19 09:44	Jul-10-19 10:03	Jul-10-19 10:08	Jul-10-19 10:13	Jul-10-19 10:28
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		3390 25.0	<5.05 5.05	217 5.01	28.5 4.98	842 24.8	9.02 4.95
TPH by SW8015 Mod	Extracted:	Jul-11-19 15:00	Jul-11-19 15:00	Jul-11-19 15:00	Jul-11-19 15:00	Jul-11-19 15:00	Jul-11-19 15:00
	Analyzed:	Jul-12-19 18:07	Jul-12-19 16:01	Jul-12-19 16:26	Jul-12-19 16:51	Jul-12-19 17:17	Jul-12-19 17:42
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		872 74.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	39.7 15.0	<15.0 15.0
Diesel Range Organics (DRO)		17200 74.9	<15.0 15.0	20.5 15.0	33.1 15.0	1960 15.0	43.8 15.0
Motor Oil Range Hydrocarbons (MRO)		596 74.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	146 15.0	<15.0 15.0
Total TPH		18700 74.9	<15.0 15.0	20.5 15.0	33.1 15.0	2150 15.0	43.8 15.0
Total GRO-DRO		18100 74.9	<15.0 15.0	20.5 15.0	33.1 15.0	2000 15.0	43.8 15.0

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

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

Version: 1.9%

Jessica Kramer
Project Assistant



Certificate of Analytical Results 630293



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH26**
Lab Sample Id: 630293-001

Matrix: Soil
Date Collected: 07.08.19 13.58

Date Received: 07.09.19 16.45
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094890

Date Prep: 07.10.19 09.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3390	25.0	mg/kg	07.10.19 09.58		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3095232

Date Prep: 07.11.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	872	74.9	mg/kg	07.12.19 18.07		5
Diesel Range Organics (DRO)	C10C28DRO	17200	74.9	mg/kg	07.12.19 18.07		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	596	74.9	mg/kg	07.12.19 18.07		5
Total TPH	PHC635	18700	74.9	mg/kg	07.12.19 18.07		5
Total GRO-DRO	PHC628	18100	74.9	mg/kg	07.12.19 18.07		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	07.12.19 18.07	
o-Terphenyl	84-15-1	124	%	70-135	07.12.19 18.07	



Certificate of Analytical Results 630293



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH26**
Lab Sample Id: 630293-001

Matrix: Soil
Date Collected: 07.08.19 13.58

Date Received: 07.09.19 16.45
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DVM

% Moisture:

Analyst: FOV

Date Prep: 07.10.19 09.50

Basis: Wet Weight

Seq Number: 3095195

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0402	0.0402	mg/kg	07.12.19 05.48	U	20
Toluene	108-88-3	<0.0402	0.0402	mg/kg	07.12.19 05.48	U	20
Ethylbenzene	100-41-4	0.228	0.0402	mg/kg	07.12.19 05.48		20
m,p-Xylenes	179601-23-1	1.18	0.0803	mg/kg	07.12.19 05.48		20
o-Xylene	95-47-6	0.572	0.0402	mg/kg	07.12.19 05.48		20
Total Xylenes	1330-20-7	1.75	0.0402	mg/kg	07.12.19 05.48		20
Total BTEX		1.98	0.0402	mg/kg	07.12.19 05.48		20
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	85		%	70-130	07.12.19 05.48	
4-Bromofluorobenzene	460-00-4	154		%	70-130	07.12.19 05.48	**



Certificate of Analytical Results 630293



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH26A**
Lab Sample Id: 630293-002

Matrix: Soil
Date Collected: 07.08.19 14.30

Date Received: 07.09.19 16.45
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094890

Date Prep: 07.10.19 09.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<5.05	5.05	mg/kg	07.10.19 09.44	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3095232

Date Prep: 07.11.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.12.19 16.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.12.19 16.01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.12.19 16.01	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.12.19 16.01	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.12.19 16.01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	07.12.19 16.01	
o-Terphenyl	84-15-1	62	%	70-135	07.12.19 16.01	**



Certificate of Analytical Results 630293



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH26A**
Lab Sample Id: 630293-002

Matrix: Soil
Date Collected: 07.08.19 14.30

Date Received: 07.09.19 16.45
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DVM

% Moisture:

Analyst: FOV

Date Prep: 07.10.19 09.50

Basis: Wet Weight

Seq Number: 3095195

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.12.19 00.11	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.12.19 00.11	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.12.19 00.11	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.12.19 00.11	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.12.19 00.11	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.12.19 00.11	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.12.19 00.11	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	07.12.19 00.11		
1,4-Difluorobenzene	540-36-3	100	%	70-130	07.12.19 00.11		



Certificate of Analytical Results 630293



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH27**
Lab Sample Id: 630293-003

Matrix: Soil
Date Collected: 07.08.19 14.50

Date Received: 07.09.19 16.45
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094890

Date Prep: 07.10.19 09.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	217	5.01	mg/kg	07.10.19 10.03		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3095232

Date Prep: 07.11.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.12.19 16.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	20.5	15.0	mg/kg	07.12.19 16.26		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.12.19 16.26	U	1
Total TPH	PHC635	20.5	15.0	mg/kg	07.12.19 16.26		1
Total GRO-DRO	PHC628	20.5	15.0	mg/kg	07.12.19 16.26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	85	%	70-135	07.12.19 16.26	
o-Terphenyl	84-15-1	70	%	70-135	07.12.19 16.26	



Certificate of Analytical Results 630293



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH27**
Lab Sample Id: 630293-003

Matrix: Soil
Date Collected: 07.08.19 14.50

Date Received: 07.09.19 16.45
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: FOV

Seq Number: 3095195

Date Prep: 07.10.19 09.50

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	07.12.19 00.33	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.12.19 00.33	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.12.19 00.33	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.12.19 00.33	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.12.19 00.33	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.12.19 00.33	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.12.19 00.33	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	70-130	07.12.19 00.33		
1,4-Difluorobenzene	540-36-3	103	%	70-130	07.12.19 00.33		



Certificate of Analytical Results 630293



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH27A**
Lab Sample Id: 630293-004

Matrix: Soil
Date Collected: 07.08.19 14.55

Date Received: 07.09.19 16.45
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094890

Date Prep: 07.10.19 09.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	28.5	4.98	mg/kg	07.10.19 10.08		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3095232

Date Prep: 07.11.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.12.19 16.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	33.1	15.0	mg/kg	07.12.19 16.51		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.12.19 16.51	U	1
Total TPH	PHC635	33.1	15.0	mg/kg	07.12.19 16.51		1
Total GRO-DRO	PHC628	33.1	15.0	mg/kg	07.12.19 16.51		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	07.12.19 16.51	
o-Terphenyl	84-15-1	71	%	70-135	07.12.19 16.51	



Certificate of Analytical Results 630293



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH27A**
Lab Sample Id: 630293-004

Matrix: Soil
Date Collected: 07.08.19 14.55

Date Received: 07.09.19 16.45
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DVM

% Moisture:

Analyst: FOV

Date Prep: 07.10.19 09.50

Basis: Wet Weight

Seq Number: 3095195

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.12.19 00.55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.12.19 00.55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.12.19 00.55	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.12.19 00.55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.12.19 00.55	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.12.19 00.55	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.12.19 00.55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	07.12.19 00.55		
4-Bromofluorobenzene	460-00-4	111	%	70-130	07.12.19 00.55		



Certificate of Analytical Results 630293



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH28**
Lab Sample Id: 630293-005

Matrix: Soil
Date Collected: 07.08.19 15.30

Date Received: 07.09.19 16.45
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094890

Date Prep: 07.10.19 09.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	842	24.8	mg/kg	07.10.19 10.13		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3095232

Date Prep: 07.11.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	39.7	15.0	mg/kg	07.12.19 17.17		1
Diesel Range Organics (DRO)	C10C28DRO	1960	15.0	mg/kg	07.12.19 17.17		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	146	15.0	mg/kg	07.12.19 17.17		1
Total TPH	PHC635	2150	15.0	mg/kg	07.12.19 17.17		1
Total GRO-DRO	PHC628	2000	15.0	mg/kg	07.12.19 17.17		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	07.12.19 17.17	
o-Terphenyl	84-15-1	88	%	70-135	07.12.19 17.17	



Certificate of Analytical Results 630293



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH28**
Lab Sample Id: 630293-005

Matrix: Soil
Date Collected: 07.08.19 15.30

Date Received: 07.09.19 16.45
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DVM

% Moisture:

Analyst: FOV

Date Prep: 07.10.19 09.50

Basis: Wet Weight

Seq Number: 3095195

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.12.19 03.58	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.12.19 03.58	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.12.19 03.58	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.12.19 03.58	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.12.19 03.58	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.12.19 03.58	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.12.19 03.58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	100	%	70-130	07.12.19 03.58		
1,4-Difluorobenzene	540-36-3	89	%	70-130	07.12.19 03.58		



Certificate of Analytical Results 630293



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH28A**
Lab Sample Id: 630293-006

Matrix: Soil
Date Collected: 07.08.19 15.45

Date Received: 07.09.19 16.45
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094890

Date Prep: 07.10.19 09.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	9.02	4.95	mg/kg	07.10.19 10.28		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3095232

Date Prep: 07.11.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.12.19 17.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	43.8	15.0	mg/kg	07.12.19 17.42		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.12.19 17.42	U	1
Total TPH	PHC635	43.8	15.0	mg/kg	07.12.19 17.42		1
Total GRO-DRO	PHC628	43.8	15.0	mg/kg	07.12.19 17.42		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	07.12.19 17.42	
o-Terphenyl	84-15-1	98	%	70-135	07.12.19 17.42	



Certificate of Analytical Results 630293



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH28A**
Lab Sample Id: 630293-006

Matrix: Soil
Date Collected: 07.08.19 15.45

Date Received: 07.09.19 16.45
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: FOV

Seq Number: 3095195

Date Prep: 07.10.19 09.50

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	07.12.19 01.17	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.12.19 01.17	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.12.19 01.17	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.12.19 01.17	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.12.19 01.17	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.12.19 01.17	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.12.19 01.17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	07.12.19 01.17		
4-Bromofluorobenzene	460-00-4	112	%	70-130	07.12.19 01.17		



Flagging Criteria



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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU 23 DTD 108 H

Analytical Method: Chloride by EPA 300

Seq Number: 3094890

MB Sample Id: 7681695-1-BLK

Matrix: Solid

LCS Sample Id: 7681695-1-BKS

Prep Method: E300P

Date Prep: 07.10.19

LCSD Sample Id: 7681695-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	237	95	239	96	90-110	1	20	mg/kg	07.10.19 09:34	

Analytical Method: Chloride by EPA 300

Seq Number: 3094890

Parent Sample Id: 630293-002

Matrix: Soil

MS Sample Id: 630293-002 S

Prep Method: E300P

Date Prep: 07.10.19

MSD Sample Id: 630293-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2.98	253	254	99	254	99	90-110	0	20	mg/kg	07.10.19 09:49	

Analytical Method: Chloride by EPA 300

Seq Number: 3094890

Parent Sample Id: 630294-003

Matrix: Soil

MS Sample Id: 630294-003 S

Prep Method: E300P

Date Prep: 07.10.19

MSD Sample Id: 630294-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	320	252	547	90	547	90	90-110	0	20	mg/kg	07.10.19 10:57	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3095232

MB Sample Id: 7681941-1-BLK

Matrix: Solid

LCS Sample Id: 7681941-1-BKS

Prep Method: TX1005P

Date Prep: 07.11.19

LCSD Sample Id: 7681941-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1090	109	1040	104	70-135	5	20	mg/kg	07.12.19 08:36	
Diesel Range Organics (DRO)	<8.13	1000	1060	106	1080	108	70-135	2	20	mg/kg	07.12.19 08:36	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		92		92		70-135	%	07.12.19 08:36
o-Terphenyl	71		78		87		70-135	%	07.12.19 08:36

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

$[D] = 100 * (C-A) / B$
 $RPD = 200 * |(C-E) / (C+E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = 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 23 DTD 108 H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3095232

Parent Sample Id: 630531-001

Matrix: Soil

MS Sample Id: 630531-001 S

Prep Method: TX1005P

Date Prep: 07.11.19

MSD Sample Id: 630531-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	13.4	999	988	98	1030	102	70-135	4	20	mg/kg	07.12.19 09:51	
Diesel Range Organics (DRO)	10.9	999	1050	104	1080	107	70-135	3	20	mg/kg	07.12.19 09:51	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	89		94		70-135	%	07.12.19 09:51
o-Terphenyl	91		82		70-135	%	07.12.19 09:51

Analytical Method: BTEX by EPA 8021B

Seq Number: 3095195

MB Sample Id: 7681707-1-BLK

Matrix: Solid

LCS Sample Id: 7681707-1-BKS

Prep Method: SW5030B

Date Prep: 07.10.19

LCSD Sample Id: 7681707-1-BSO

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0916	92	0.0927	93	70-130	1	35	mg/kg	07.11.19 20:47	
Toluene	<0.00200	0.100	0.0906	91	0.0918	92	70-130	1	35	mg/kg	07.11.19 20:47	
Ethylbenzene	<0.00200	0.100	0.100	100	0.102	102	70-130	2	35	mg/kg	07.11.19 20:47	
m,p-Xylenes	<0.00400	0.200	0.202	101	0.205	103	70-130	1	35	mg/kg	07.11.19 20:47	
o-Xylene	<0.00200	0.100	0.0992	99	0.103	103	70-130	4	35	mg/kg	07.11.19 20:47	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		93		98		70-130	%	07.11.19 20:47
4-Bromofluorobenzene	102		106		120		70-130	%	07.11.19 20:47

Analytical Method: BTEX by EPA 8021B

Seq Number: 3095195

Parent Sample Id: 630312-001

Matrix: Soil

MS Sample Id: 630312-001 S

Prep Method: SW5030B

Date Prep: 07.10.19

MSD Sample Id: 630312-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0733	73	0.0692	70	70-130	6	35	mg/kg	07.11.19 21:31	
Toluene	<0.00200	0.100	0.0596	60	0.0572	58	70-130	4	35	mg/kg	07.11.19 21:31	X
Ethylbenzene	<0.00200	0.100	0.0439	44	0.0417	42	70-130	5	35	mg/kg	07.11.19 21:31	X
m,p-Xylenes	<0.00401	0.200	0.103	52	0.100	50	70-130	3	35	mg/kg	07.11.19 21:31	X
o-Xylene	<0.00200	0.100	0.0772	77	0.0723	73	70-130	7	35	mg/kg	07.11.19 21:31	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		90		70-130	%	07.11.19 21:31
4-Bromofluorobenzene	122		121		70-130	%	07.11.19 21:31

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

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

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

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



Chain of Custody

Work Order No:

1030293

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
Midland, TX (432) 704-5440 EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

www.xenco.com

Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental	Company Name:	KTB
Address:	3800 North A Street	Address:	3104 E. Greene Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carlsbad NM 88220
Phone:	432 236 3819	Email:	nmeyes@ltenv.com

Project Name:	PLU 325TD 1084	Turn Around	
Project Number:	02919134	Routine	☐
Project Location:	Eddy County	Rush:	Same Day
Sampler's Name:	Anna Byers	Due Date:	
PO #:	202-4830	Quote #:	

SAMPLE RECEIPT		Temp Blank:	Yes	Wet Ice:	No
Temperature (°C):	3.31	Thermometer #:	11		
Received Intact:	Yes	Correction Factor:			
Cooler Custody Seals:	Yes	Total Containers:	10		
Sample Custody Seals:	Yes				

ANALYSIS REQUEST		Preservative Codes	
Prep	Code	MeOH: Me	
		None: NO	
		HNO3: HN	
		H2SO4: H2	
		HCL: HL	
		NaOH: Na	
		Zn Acetate+ NaOH: Zn	
		TAT starts the day received by the lab, if received by 4:00pm	

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Sample Comments
PH26		S	7/8/19	1358	1'	1	
PH26A		S		1430	8'	1	
PH27		S		1430	0.5'	1	
PH27A		S		1455	4.5'	1	
PH28		S		1530	0.5'	1	
PH28A		S		1545	4.5'	1	

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn 1631 / 245.1 / 7470 / 7471 : Hg

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	Anna Byers	7/9/19 7:50AM	Anna Byers	Anna Byers	7/9/19 11:05AM



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 07/09/2019 04:45:00 PM

Work Order #: 630293

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	3.1
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 07/09/2019

Checklist reviewed by:

Jessica Kramer

Date: 07/10/2019

Analytical Report 630294

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 23 DTD 108 H

012919134

12-JUL-19

Collected By: Client



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

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

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

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



12-JUL-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **630294**

PLU 23 DTD 108 H

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) 630294. 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. 630294 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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



Sample Cross Reference 630294

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	07-08-19 12:35	4.5 ft	630294-001
FS02	S	07-08-19 12:37	4.5 ft	630294-002
FS03	S	07-08-19 12:39	4.5 ft	630294-003
FS04	S	07-08-19 12:40	4.5 ft	630294-004
FS05	S	07-08-19 12:41	4.5 ft	630294-005
FS06	S	07-08-19 12:43	4.5 ft	630294-006
FS07	S	07-08-19 12:45	4.5 ft	630294-007
FS08	S	07-08-19 12:46	4.5 ft	630294-008
FS09	S	07-08-19 12:47	4.5 ft	630294-009
FS10	S	07-08-19 12:49	4.5 ft	630294-010
FS11	S	07-08-19 12:50	4.5 ft	630294-011
FS12	S	07-08-19 12:51	4.5 ft	630294-012
FS13	S	07-08-19 12:52	4.5 ft	630294-013
FS14	S	07-08-19 12:54	4.5 ft	630294-014
FS15	S	07-08-19 12:55	4.5 ft	630294-015
FS16	S	07-08-19 12:56	4.5 ft	630294-016
FS17	S	07-08-19 12:57	4.5 ft	630294-017
FS18	S	07-08-19 12:58	4.5 ft	630294-018
FS19	S	07-08-19 12:59	4.5 ft	630294-019
FS20	S	07-08-19 13:00	4.5 ft	630294-020
FS21	S	07-08-19 13:05	4.5 ft	630294-021
FS22	S	07-08-19 13:10	4.5 ft	630294-022
SW02	S	07-08-19 10:46	0.5 - 4.5 ft	630294-023
SW03	S	07-08-19 12:10	0.5 - 4.5 ft	630294-024
SW04	S	07-08-19 12:15	0.5 - 4.5 ft	630294-025
SW05	S	07-08-19 12:20	0.5 - 4.5 ft	630294-026
SW06	S	07-08-19 12:25	0.5 - 4.5 ft	630294-027

**CASE NARRATIVE****Client Name: LT Environmental, Inc.****Project Name: PLU 23 DTD 108 H**Project ID: 012919134
Work Order Number(s): 630294Report Date: 12-JUL-19
Date Received: 07/09/2019**Sample receipt non conformances and comments:**

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3094918 Chloride by EPA 300

Lab Sample ID 630294-023 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: 630294-013, -014, -015, -016, -017, -018, -019, -020, -021, -022, -023, -024, -025, -026, -027.

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

Batch: LBA-3095086 TPH by SW8015 Mod

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

Samples affected are: 630294-013,630294-001.

Batch: LBA-3095198 BTEX by EPA 8021B

Lab Sample ID 630294-021 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). m,p-Xylenes recovered below QC limits in the Matrix Spike. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 630294-021, -022, -023, -024, -025, -026, -027.

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

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

Batch: LBA-3095201 BTEX by EPA 8021B

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

Surrogate 1,4-Difluorobenzene recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 630294-004,630294-019,630294-018.



Certificate of Analysis Summary 630294

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108 H

Project Id: 012919134
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Tue Jul-09-19 04:42 pm
Report Date: 12-JUL-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	630294-001	630294-002	630294-003	630294-004	630294-005	630294-006
	<i>Field Id:</i>	FS01	FS02	FS03	FS04	FS05	FS06
	<i>Depth:</i>	4.5- ft	4.5- ft	4.5- ft	4.5- ft	4.5- ft	4.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jul-08-19 12:35	Jul-08-19 12:37	Jul-08-19 12:39	Jul-08-19 12:40	Jul-08-19 12:41	Jul-08-19 12:43
BTEX by EPA 8021B	<i>Extracted:</i>	Jul-10-19 10:50	Jul-10-19 10:50	Jul-10-19 10:50	Jul-10-19 10:50	Jul-10-19 10:50	Jul-10-19 10:50
	<i>Analyzed:</i>	Jul-11-19 07:40	Jul-11-19 08:04	Jul-11-19 08:28	Jul-11-19 19:07	Jul-11-19 08:51	Jul-11-19 09:15
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00201 0.00201	0.00501 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00398 0.00398	<0.00398 0.00398	<0.00399 0.00399	0.00538 0.00402	<0.00401 0.00401	<0.00398 0.00398
o-Xylene		<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	0.0248 0.00201	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	0.0302 0.00201	<0.00200 0.00200	<0.00199 0.00199
Total BTEX		<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	0.0302 0.00201	0.00501 0.00200	<0.00199 0.00199
Chloride by EPA 300	<i>Extracted:</i>	Jul-10-19 09:30	Jul-10-19 09:30	Jul-10-19 09:30	Jul-10-19 09:30	Jul-10-19 09:30	Jul-10-19 09:30
	<i>Analyzed:</i>	Jul-10-19 10:42	Jul-10-19 10:47	Jul-10-19 10:52	Jul-10-19 11:06	Jul-10-19 11:11	Jul-10-19 11:26
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		89.4 5.02	349 4.96	320 5.03	249 4.97	832 4.99	670 5.00
TPH by SW8015 Mod	<i>Extracted:</i>	Jul-10-19 15:00	Jul-10-19 15:00	Jul-10-19 15:00	Jul-10-19 15:00	Jul-10-19 15:00	Jul-10-19 15:00
	<i>Analyzed:</i>	Jul-10-19 23:15	Jul-11-19 00:36	Jul-11-19 01:03	Jul-11-19 01:30	Jul-11-19 01:56	Jul-11-19 02:23
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	225 15.0	25.3 15.0	90.9 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	23.6 15.0	<15.0 15.0	16.8 15.0	<15.0 15.0
Total TPH		<15.0 15.0	<15.0 15.0	249 15.0	25.3 15.0	108 15.0	<15.0 15.0
Total GRO-DRO		<15.0 15.0	<15.0 15.0	225 15.0	25.3 15.0	90.9 15.0	<15.0 15.0

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Jessica Kramer
Project Assistant



Certificate of Analysis Summary 630294

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108 H

Project Id: 012919134
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Tue Jul-09-19 04:42 pm
Report Date: 12-JUL-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	630294-007	630294-008	630294-009	630294-010	630294-011	630294-012
	<i>Field Id:</i>	FS07	FS08	FS09	FS10	FS11	FS12
	<i>Depth:</i>	4.5- ft	4.5- ft	4.5- ft	4.5- ft	4.5- ft	4.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jul-08-19 12:45	Jul-08-19 12:46	Jul-08-19 12:47	Jul-08-19 12:49	Jul-08-19 12:50	Jul-08-19 12:51
BTEX by EPA 8021B	<i>Extracted:</i>	Jul-10-19 10:50	Jul-10-19 10:50	Jul-10-19 10:50	Jul-10-19 10:50	Jul-10-19 10:50	Jul-10-19 10:50
	<i>Analyzed:</i>	Jul-11-19 09:38	Jul-11-19 10:02	Jul-11-19 10:26	Jul-11-19 10:49	Jul-11-19 11:13	Jul-11-19 13:06
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
m,p-Xylenes		<0.00401 0.00401	<0.00402 0.00402	<0.00399 0.00399	<0.00400 0.00400	<0.00402 0.00402	<0.00401 0.00401
o-Xylene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	Jul-10-19 09:30	Jul-10-19 09:30	Jul-10-19 09:30	Jul-10-19 09:30	Jul-10-19 09:30	Jul-10-19 09:30
	<i>Analyzed:</i>	Jul-10-19 11:30	Jul-10-19 11:35	Jul-10-19 11:40	Jul-10-19 11:45	Jul-10-19 11:50	Jul-10-19 11:55
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		238 5.00	448 5.05	490 4.97	427 4.95	426 4.95	402 5.00
TPH by SW8015 Mod	<i>Extracted:</i>	Jul-10-19 15:00	Jul-10-19 15:00	Jul-10-19 15:00	Jul-10-19 15:00	Jul-10-19 15:00	Jul-10-19 15:00
	<i>Analyzed:</i>	Jul-11-19 02:50	Jul-11-19 03:16	Jul-11-19 03:43	Jul-11-19 04:10	Jul-11-19 05:02	Jul-11-19 05:29
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	35.1 15.0	29.0 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	35.1 15.0	29.0 15.0	<15.0 15.0
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<15.0 15.0	35.1 15.0	29.0 15.0	<15.0 15.0

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Jessica Kramer
Project Assistant



Certificate of Analysis Summary 630294

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108 H

Project Id: 012919134
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Tue Jul-09-19 04:42 pm
Report Date: 12-JUL-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	630294-013	630294-014	630294-015	630294-016	630294-017	630294-018
	<i>Field Id:</i>	FS13	FS14	FS15	FS16	FS17	FS18
	<i>Depth:</i>	4.5- ft	4.5- ft	4.5- ft	4.5- ft	4.5- ft	4.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jul-08-19 12:52	Jul-08-19 12:54	Jul-08-19 12:55	Jul-08-19 12:56	Jul-08-19 12:57	Jul-08-19 12:58
BTEX by EPA 8021B	<i>Extracted:</i>	Jul-10-19 10:50	Jul-10-19 10:50	Jul-10-19 10:50	Jul-10-19 10:50	Jul-10-19 10:50	Jul-10-19 10:50
	<i>Analyzed:</i>	Jul-11-19 13:29	Jul-11-19 13:54	Jul-11-19 19:31	Jul-11-19 18:43	Jul-11-19 14:19	Jul-11-19 19:54
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200
Toluene		<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200
Ethylbenzene		<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200
m,p-Xylenes		<0.00398 0.00398	<0.00400 0.00400	0.00487 0.00397	<0.00398 0.00398	<0.00402 0.00402	0.00512 0.00399
o-Xylene		<0.00199 0.00199	<0.00200 0.00200	0.0123 0.00198	0.00233 0.00199	<0.00201 0.00201	0.0214 0.00200
Total Xylenes		<0.00199 0.00199	<0.00200 0.00200	0.0172 0.00198	0.00233 0.00199	<0.00201 0.00201	0.0265 0.00200
Total BTEX		<0.00199 0.00199	<0.00200 0.00200	0.0172 0.00198	0.00233 0.00199	<0.00201 0.00201	0.0265 0.00200
Chloride by EPA 300	<i>Extracted:</i>	Jul-10-19 09:50	Jul-10-19 09:50	Jul-10-19 09:50	Jul-10-19 09:50	Jul-10-19 09:50	Jul-10-19 09:50
	<i>Analyzed:</i>	Jul-10-19 12:24	Jul-10-19 12:38	Jul-10-19 12:43	Jul-10-19 12:48	Jul-10-19 12:53	Jul-10-19 13:07
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		60.4 5.00	633 5.02	160 4.99	188 4.96	369 4.98	234 5.04
TPH by SW8015 Mod	<i>Extracted:</i>	Jul-10-19 15:00	Jul-10-19 15:00	Jul-10-19 15:00	Jul-10-19 15:00	Jul-10-19 15:00	Jul-10-19 15:00
	<i>Analyzed:</i>	Jul-11-19 05:55	Jul-11-19 06:22	Jul-11-19 06:49	Jul-11-19 07:16	Jul-11-19 07:43	Jul-11-19 08:10
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<14.9 14.9	<15.0 15.0	26.1 15.0	31.3 15.0	<14.9 14.9	20.0 15.0
Diesel Range Organics (DRO)		<14.9 14.9	<15.0 15.0	1070 15.0	1070 15.0	<14.9 14.9	732 15.0
Motor Oil Range Hydrocarbons (MRO)		<14.9 14.9	<15.0 15.0	32.6 15.0	23.5 15.0	<14.9 14.9	19.4 15.0
Total TPH		<14.9 14.9	<15.0 15.0	1130 15.0	1120 15.0	<14.9 14.9	771 15.0
Total GRO-DRO		<14.9 14.9	<15.0 15.0	1100 15.0	1100 15.0	<14.9 14.9	752 15.0

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Jessica Kramer
Project Assistant



Certificate of Analysis Summary 630294

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108 H

Project Id: 012919134
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Tue Jul-09-19 04:42 pm
Report Date: 12-JUL-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	630294-019	630294-020	630294-021	630294-022	630294-023	630294-024
	<i>Field Id:</i>	FS19	FS20	FS21	FS22	SW02	SW03
	<i>Depth:</i>	4.5- ft	4.5- ft	4.5- ft	4.5- ft	0.5-4.5 ft	0.5-4.5 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jul-08-19 12:59	Jul-08-19 13:00	Jul-08-19 13:05	Jul-08-19 13:10	Jul-08-19 10:46	Jul-08-19 12:10
BTEX by EPA 8021B	<i>Extracted:</i>	Jul-10-19 10:50	Jul-10-19 10:50	Jul-10-19 11:35	Jul-10-19 11:35	Jul-10-19 11:35	Jul-10-19 11:35
	<i>Analyzed:</i>	Jul-11-19 20:18	Jul-11-19 14:44	Jul-12-19 00:36	Jul-12-19 01:00	Jul-12-19 01:23	Jul-12-19 01:46
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Ethylbenzene		0.00374 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
m,p-Xylenes		0.0146 0.00401	<0.00398 0.00398	<0.00401 0.00401	<0.00400 0.00400	<0.00398 0.00398	<0.00399 0.00399
o-Xylene		0.0124 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Total Xylenes		0.0270 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Total BTEX		0.0307 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	Jul-10-19 09:50	Jul-10-19 09:50	Jul-10-19 09:50	Jul-10-19 09:50	Jul-10-19 09:50	Jul-10-19 09:50
	<i>Analyzed:</i>	Jul-10-19 13:12	Jul-10-19 13:17	Jul-10-19 13:22	Jul-10-19 13:27	Jul-10-19 13:32	Jul-10-19 13:46
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		187 5.00	285 4.97	175 5.00	183 5.00	385 5.00	1060 5.03
TPH by SW8015 Mod	<i>Extracted:</i>	Jul-10-19 15:00	Jul-10-19 15:00	Jul-11-19 16:00	Jul-11-19 16:00	Jul-11-19 16:00	Jul-11-19 16:00
	<i>Analyzed:</i>	Jul-11-19 08:38	Jul-11-19 09:05	Jul-12-19 00:37	Jul-12-19 01:40	Jul-12-19 02:01	Jul-12-19 02:22
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		79.0 15.0	<14.9 14.9	<14.9 14.9	<15.0 15.0	<15.0 15.0	<14.9 14.9
Diesel Range Organics (DRO)		1770 15.0	35.5 14.9	16.6 14.9	19.2 15.0	24.5 15.0	34.7 14.9
Motor Oil Range Hydrocarbons (MRO)		33.2 15.0	<14.9 14.9	<14.9 14.9	<15.0 15.0	<15.0 15.0	<14.9 14.9
Total TPH		1880 15.0	35.5 14.9	16.6 14.9	19.2 15.0	24.5 15.0	34.7 14.9
Total GRO-DRO		1850 15.0	35.5 14.9	16.6 14.9	19.2 15.0	24.5 15.0	34.7 14.9

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Jessica Kramer
Project Assistant



Certificate of Analysis Summary 630294

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108 H

Project Id: 012919134
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Tue Jul-09-19 04:42 pm
Report Date: 12-JUL-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	630294-025	630294-026	630294-027			
	<i>Field Id:</i>	SW04	SW05	SW06			
	<i>Depth:</i>	0.5-4.5 ft	0.5-4.5 ft	0.5-4.5 ft			
	<i>Matrix:</i>	SOIL	SOIL	SOIL			
	<i>Sampled:</i>	Jul-08-19 12:15	Jul-08-19 12:20	Jul-08-19 12:25			
BTEX by EPA 8021B	<i>Extracted:</i>	Jul-10-19 11:35	Jul-10-19 11:35	Jul-10-19 11:35			
	<i>Analyzed:</i>	Jul-12-19 02:09	Jul-12-19 02:32	Jul-12-19 02:55			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198			
Toluene		<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198			
Ethylbenzene		<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198			
m,p-Xylenes		<0.00398 0.00398	<0.00398 0.00398	<0.00396 0.00396			
o-Xylene		<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198			
Total Xylenes		<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198			
Total BTEX		<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198			
Chloride by EPA 300	<i>Extracted:</i>	Jul-10-19 09:50	Jul-10-19 09:50	Jul-10-19 09:50			
	<i>Analyzed:</i>	Jul-10-19 13:51	Jul-10-19 14:05	Jul-10-19 14:10			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		166 4.99	1790 25.3	625 4.99			
TPH by SW8015 Mod	<i>Extracted:</i>	Jul-11-19 16:00	Jul-11-19 16:00	Jul-11-19 16:00			
	<i>Analyzed:</i>	Jul-12-19 02:43	Jul-12-19 03:03	Jul-12-19 03:24			
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	62.6 15.0	<15.0 15.0			
Diesel Range Organics (DRO)		29.2 15.0	1960 15.0	286 15.0			
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	143 15.0	44.3 15.0			
Total TPH		29.2 15.0	2170 15.0	330 15.0			
Total GRO-DRO		29.2 15.0	2020 15.0	286 15.0			

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

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Version: 1.0%

Jessica Kramer
Project Assistant



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS01**
Lab Sample Id: 630294-001

Matrix: Soil
Date Collected: 07.08.19 12.35

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094890

Date Prep: 07.10.19 09.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	89.4	5.02	mg/kg	07.10.19 10.42		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095086

Date Prep: 07.10.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.10.19 23.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.10.19 23.15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.10.19 23.15	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.10.19 23.15	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.10.19 23.15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	71	%	70-135	07.10.19 23.15	
o-Terphenyl	84-15-1	68	%	70-135	07.10.19 23.15	**



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS01**
Lab Sample Id: 630294-001

Matrix: Soil
Date Collected: 07.08.19 12.35

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DVM

% Moisture:

Analyst: FOV

Date Prep: 07.10.19 10.50

Basis: Wet Weight

Seq Number: 3095201

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.11.19 07.40	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.11.19 07.40	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.11.19 07.40	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.11.19 07.40	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.11.19 07.40	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.11.19 07.40	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.11.19 07.40	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	07.11.19 07.40		
1,4-Difluorobenzene	540-36-3	101	%	70-130	07.11.19 07.40		



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS02**
Lab Sample Id: 630294-002

Matrix: Soil
Date Collected: 07.08.19 12.37

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094890

Date Prep: 07.10.19 09.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	349	4.96	mg/kg	07.10.19 10.47		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095086

Date Prep: 07.10.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.11.19 00.36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.11.19 00.36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.11.19 00.36	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.11.19 00.36	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.11.19 00.36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	70	%	70-135	07.11.19 00.36	
o-Terphenyl	84-15-1	70	%	70-135	07.11.19 00.36	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS02**
Lab Sample Id: 630294-002

Matrix: Soil
Date Collected: 07.08.19 12.37

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DVM

% Moisture:

Analyst: FOV

Date Prep: 07.10.19 10.50

Basis: Wet Weight

Seq Number: 3095201

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.11.19 08.04	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.11.19 08.04	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.11.19 08.04	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.11.19 08.04	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.11.19 08.04	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.11.19 08.04	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.11.19 08.04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	07.11.19 08.04		
1,4-Difluorobenzene	540-36-3	102	%	70-130	07.11.19 08.04		



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS03**
Lab Sample Id: 630294-003

Matrix: Soil
Date Collected: 07.08.19 12.39

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094890

Date Prep: 07.10.19 09.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	320	5.03	mg/kg	07.10.19 10.52		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095086

Date Prep: 07.10.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.11.19 01.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	225	15.0	mg/kg	07.11.19 01.03		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	23.6	15.0	mg/kg	07.11.19 01.03		1
Total TPH	PHC635	249	15.0	mg/kg	07.11.19 01.03		1
Total GRO-DRO	PHC628	225	15.0	mg/kg	07.11.19 01.03		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	74	%	70-135	07.11.19 01.03	
o-Terphenyl	84-15-1	79	%	70-135	07.11.19 01.03	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS03**
Lab Sample Id: 630294-003

Matrix: Soil
Date Collected: 07.08.19 12.39

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DVM

% Moisture:

Analyst: FOV

Date Prep: 07.10.19 10.50

Basis: Wet Weight

Seq Number: 3095201

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.11.19 08.28	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.11.19 08.28	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.11.19 08.28	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.11.19 08.28	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.11.19 08.28	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.11.19 08.28	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.11.19 08.28	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	70-130	07.11.19 08.28		
4-Bromofluorobenzene	460-00-4	106	%	70-130	07.11.19 08.28		



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS04**
Lab Sample Id: 630294-004

Matrix: Soil
Date Collected: 07.08.19 12.40

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094890

Date Prep: 07.10.19 09.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	249	4.97	mg/kg	07.10.19 11.06		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095086

Date Prep: 07.10.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.11.19 01.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	25.3	15.0	mg/kg	07.11.19 01.30		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.11.19 01.30	U	1
Total TPH	PHC635	25.3	15.0	mg/kg	07.11.19 01.30		1
Total GRO-DRO	PHC628	25.3	15.0	mg/kg	07.11.19 01.30		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	76	%	70-135	07.11.19 01.30	
o-Terphenyl	84-15-1	83	%	70-135	07.11.19 01.30	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS04**
Lab Sample Id: 630294-004

Matrix: Soil
Date Collected: 07.08.19 12.40

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DVM

% Moisture:

Analyst: FOV

Date Prep: 07.10.19 10.50

Basis: Wet Weight

Seq Number: 3095201

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.11.19 19.07	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.11.19 19.07	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.11.19 19.07	U	1
m,p-Xylenes	179601-23-1	0.00538	0.00402	mg/kg	07.11.19 19.07		1
o-Xylene	95-47-6	0.0248	0.00201	mg/kg	07.11.19 19.07		1
Total Xylenes	1330-20-7	0.0302	0.00201	mg/kg	07.11.19 19.07		1
Total BTEX		0.0302	0.00201	mg/kg	07.11.19 19.07		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	75	%	70-130	07.11.19 19.07		
1,4-Difluorobenzene	540-36-3	69	%	70-130	07.11.19 19.07	**	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS05**
Lab Sample Id: 630294-005

Matrix: Soil
Date Collected: 07.08.19 12.41

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094890

Date Prep: 07.10.19 09.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	832	4.99	mg/kg	07.10.19 11.11		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095086

Date Prep: 07.10.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.11.19 01.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	90.9	15.0	mg/kg	07.11.19 01.56		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	16.8	15.0	mg/kg	07.11.19 01.56		1
Total TPH	PHC635	108	15.0	mg/kg	07.11.19 01.56		1
Total GRO-DRO	PHC628	90.9	15.0	mg/kg	07.11.19 01.56		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-135	07.11.19 01.56	
o-Terphenyl	84-15-1	78	%	70-135	07.11.19 01.56	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS05**
Lab Sample Id: 630294-005

Matrix: Soil
Date Collected: 07.08.19 12.41

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: FOV

Seq Number: 3095201

Date Prep: 07.10.19 10.50

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	07.11.19 08.51	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.11.19 08.51	U	1
Ethylbenzene	100-41-4	0.00501	0.00200	mg/kg	07.11.19 08.51		1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.11.19 08.51	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.11.19 08.51	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.11.19 08.51	U	1
Total BTEX		0.00501	0.00200	mg/kg	07.11.19 08.51		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	07.11.19 08.51		
1,4-Difluorobenzene	540-36-3	104	%	70-130	07.11.19 08.51		



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS06**
Lab Sample Id: 630294-006

Matrix: Soil
Date Collected: 07.08.19 12.43

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094890

Date Prep: 07.10.19 09.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	670	5.00	mg/kg	07.10.19 11.26		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095086

Date Prep: 07.10.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.11.19 02.23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.11.19 02.23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.11.19 02.23	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.11.19 02.23	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.11.19 02.23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	07.11.19 02.23	
o-Terphenyl	84-15-1	85	%	70-135	07.11.19 02.23	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS06**
Lab Sample Id: 630294-006

Matrix: Soil
Date Collected: 07.08.19 12.43

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DVM

% Moisture:

Analyst: FOV

Date Prep: 07.10.19 10.50

Basis: Wet Weight

Seq Number: 3095201

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.11.19 09.15	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.11.19 09.15	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.11.19 09.15	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.11.19 09.15	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.11.19 09.15	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.11.19 09.15	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.11.19 09.15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	07.11.19 09.15		
1,4-Difluorobenzene	540-36-3	104	%	70-130	07.11.19 09.15		



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS07**
Lab Sample Id: 630294-007

Matrix: Soil
Date Collected: 07.08.19 12.45

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094890

Date Prep: 07.10.19 09.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	238	5.00	mg/kg	07.10.19 11.30		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095086

Date Prep: 07.10.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.11.19 02.50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.11.19 02.50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.11.19 02.50	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.11.19 02.50	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.11.19 02.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-135	07.11.19 02.50	
o-Terphenyl	84-15-1	77	%	70-135	07.11.19 02.50	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS07**
Lab Sample Id: 630294-007

Matrix: Soil
Date Collected: 07.08.19 12.45

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DVM

% Moisture:

Analyst: FOV

Date Prep: 07.10.19 10.50

Basis: Wet Weight

Seq Number: 3095201

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.11.19 09.38	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.11.19 09.38	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.11.19 09.38	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.11.19 09.38	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.11.19 09.38	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.11.19 09.38	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.11.19 09.38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	07.11.19 09.38		
1,4-Difluorobenzene	540-36-3	102	%	70-130	07.11.19 09.38		



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS08**
Lab Sample Id: 630294-008

Matrix: Soil
Date Collected: 07.08.19 12.46

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094890

Date Prep: 07.10.19 09.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	448	5.05	mg/kg	07.10.19 11.35		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095086

Date Prep: 07.10.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.11.19 03.16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.11.19 03.16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.11.19 03.16	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.11.19 03.16	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.11.19 03.16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-135	07.11.19 03.16	
o-Terphenyl	84-15-1	76	%	70-135	07.11.19 03.16	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS08**
Lab Sample Id: 630294-008

Matrix: Soil
Date Collected: 07.08.19 12.46

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: FOV

Seq Number: 3095201

Date Prep: 07.10.19 10.50

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.11.19 10.02	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.11.19 10.02	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.11.19 10.02	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.11.19 10.02	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.11.19 10.02	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.11.19 10.02	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.11.19 10.02	U	1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103		%	70-130	07.11.19 10.02	
4-Bromofluorobenzene	460-00-4	105		%	70-130	07.11.19 10.02	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS09**
Lab Sample Id: 630294-009

Matrix: Soil
Date Collected: 07.08.19 12.47

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094890

Date Prep: 07.10.19 09.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	490	4.97	mg/kg	07.10.19 11.40		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095086

Date Prep: 07.10.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.11.19 03.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.11.19 03.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.11.19 03.43	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.11.19 03.43	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.11.19 03.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-135	07.11.19 03.43	
o-Terphenyl	84-15-1	79	%	70-135	07.11.19 03.43	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS09**
Lab Sample Id: 630294-009

Matrix: Soil
Date Collected: 07.08.19 12.47

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: FOV

Seq Number: 3095201

Date Prep: 07.10.19 10.50

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	07.11.19 10.26	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.11.19 10.26	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.11.19 10.26	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.11.19 10.26	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.11.19 10.26	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.11.19 10.26	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.11.19 10.26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	07.11.19 10.26		
1,4-Difluorobenzene	540-36-3	102	%	70-130	07.11.19 10.26		



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS10**
Lab Sample Id: 630294-010

Matrix: Soil
Date Collected: 07.08.19 12.49

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094890

Date Prep: 07.10.19 09.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	427	4.95	mg/kg	07.10.19 11.45		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095086

Date Prep: 07.10.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.11.19 04.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	35.1	15.0	mg/kg	07.11.19 04.10		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.11.19 04.10	U	1
Total TPH	PHC635	35.1	15.0	mg/kg	07.11.19 04.10		1
Total GRO-DRO	PHC628	35.1	15.0	mg/kg	07.11.19 04.10		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-135	07.11.19 04.10	
o-Terphenyl	84-15-1	79	%	70-135	07.11.19 04.10	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS10**
Lab Sample Id: 630294-010

Matrix: Soil
Date Collected: 07.08.19 12.49

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: FOV

Seq Number: 3095201

Prep Method: SW5030B

% Moisture:

Date Prep: 07.10.19 10.50

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.11.19 10.49	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.11.19 10.49	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.11.19 10.49	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.11.19 10.49	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.11.19 10.49	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.11.19 10.49	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.11.19 10.49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	70-130	07.11.19 10.49		
4-Bromofluorobenzene	460-00-4	109	%	70-130	07.11.19 10.49		



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS11**
Lab Sample Id: 630294-011

Matrix: Soil
Date Collected: 07.08.19 12.50

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094890

Date Prep: 07.10.19 09.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	426	4.95	mg/kg	07.10.19 11.50		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095086

Date Prep: 07.10.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.11.19 05.02	U	1
Diesel Range Organics (DRO)	C10C28DRO	29.0	15.0	mg/kg	07.11.19 05.02		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.11.19 05.02	U	1
Total TPH	PHC635	29.0	15.0	mg/kg	07.11.19 05.02		1
Total GRO-DRO	PHC628	29.0	15.0	mg/kg	07.11.19 05.02		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	07.11.19 05.02	
o-Terphenyl	84-15-1	88	%	70-135	07.11.19 05.02	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS11**
Lab Sample Id: 630294-011

Matrix: Soil
Date Collected: 07.08.19 12.50

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DVM

% Moisture:

Analyst: FOV

Date Prep: 07.10.19 10.50

Basis: Wet Weight

Seq Number: 3095201

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.11.19 11.13	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.11.19 11.13	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.11.19 11.13	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.11.19 11.13	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.11.19 11.13	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.11.19 11.13	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.11.19 11.13	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	70-130	07.11.19 11.13		
1,4-Difluorobenzene	540-36-3	104	%	70-130	07.11.19 11.13		



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS12**
Lab Sample Id: 630294-012

Matrix: Soil
Date Collected: 07.08.19 12.51

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094890

Date Prep: 07.10.19 09.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	402	5.00	mg/kg	07.10.19 11.55		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095086

Date Prep: 07.10.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.11.19 05.29	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.11.19 05.29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.11.19 05.29	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.11.19 05.29	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.11.19 05.29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	07.11.19 05.29	
o-Terphenyl	84-15-1	79	%	70-135	07.11.19 05.29	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS12**
Lab Sample Id: 630294-012

Matrix: Soil
Date Collected: 07.08.19 12.51

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: FOV

Seq Number: 3095201

Prep Method: SW5030B

% Moisture:

Date Prep: 07.10.19 10.50

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.11.19 13.06	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.11.19 13.06	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.11.19 13.06	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.11.19 13.06	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.11.19 13.06	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.11.19 13.06	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.11.19 13.06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	07.11.19 13.06		
4-Bromofluorobenzene	460-00-4	105	%	70-130	07.11.19 13.06		



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS13**
Lab Sample Id: 630294-013

Matrix: Soil
Date Collected: 07.08.19 12.52

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094918

Date Prep: 07.10.19 09.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	60.4	5.00	mg/kg	07.10.19 12.24		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095086

Date Prep: 07.10.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.11.19 05.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.11.19 05.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	07.11.19 05.55	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	07.11.19 05.55	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	07.11.19 05.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-135	07.11.19 05.55	
o-Terphenyl	84-15-1	64	%	70-135	07.11.19 05.55	**



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS13**
Lab Sample Id: 630294-013

Matrix: Soil
Date Collected: 07.08.19 12.52

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DVM

% Moisture:

Analyst: FOV

Date Prep: 07.10.19 10.50

Basis: Wet Weight

Seq Number: 3095201

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.11.19 13.29	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.11.19 13.29	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.11.19 13.29	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.11.19 13.29	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.11.19 13.29	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.11.19 13.29	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.11.19 13.29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	70-130	07.11.19 13.29		
4-Bromofluorobenzene	460-00-4	111	%	70-130	07.11.19 13.29		



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS14**
Lab Sample Id: 630294-014

Matrix: Soil
Date Collected: 07.08.19 12.54

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094918

Date Prep: 07.10.19 09.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	633	5.02	mg/kg	07.10.19 12.38		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095086

Date Prep: 07.10.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.11.19 06.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.11.19 06.22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.11.19 06.22	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.11.19 06.22	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.11.19 06.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	07.11.19 06.22	
o-Terphenyl	84-15-1	89	%	70-135	07.11.19 06.22	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS14**
Lab Sample Id: 630294-014

Matrix: Soil
Date Collected: 07.08.19 12.54

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: FOV

Seq Number: 3095201

Date Prep: 07.10.19 10.50

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	07.11.19 13.54	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.11.19 13.54	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.11.19 13.54	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.11.19 13.54	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.11.19 13.54	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.11.19 13.54	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.11.19 13.54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	07.11.19 13.54		
1,4-Difluorobenzene	540-36-3	105	%	70-130	07.11.19 13.54		



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS15**
Lab Sample Id: 630294-015

Matrix: Soil
Date Collected: 07.08.19 12.55

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094918

Date Prep: 07.10.19 09.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	160	4.99	mg/kg	07.10.19 12.43		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095086

Date Prep: 07.10.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	26.1	15.0	mg/kg	07.11.19 06.49		1
Diesel Range Organics (DRO)	C10C28DRO	1070	15.0	mg/kg	07.11.19 06.49		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	32.6	15.0	mg/kg	07.11.19 06.49		1
Total TPH	PHC635	1130	15.0	mg/kg	07.11.19 06.49		1
Total GRO-DRO	PHC628	1100	15.0	mg/kg	07.11.19 06.49		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	07.11.19 06.49	
o-Terphenyl	84-15-1	87	%	70-135	07.11.19 06.49	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS15**
Lab Sample Id: 630294-015

Matrix: Soil
Date Collected: 07.08.19 12.55

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DVM

% Moisture:

Analyst: FOV

Date Prep: 07.10.19 10.50

Basis: Wet Weight

Seq Number: 3095201

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.11.19 19.31	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.11.19 19.31	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.11.19 19.31	U	1
m,p-Xylenes	179601-23-1	0.00487	0.00397	mg/kg	07.11.19 19.31		1
o-Xylene	95-47-6	0.0123	0.00198	mg/kg	07.11.19 19.31		1
Total Xylenes	1330-20-7	0.0172	0.00198	mg/kg	07.11.19 19.31		1
Total BTEX		0.0172	0.00198	mg/kg	07.11.19 19.31		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	70-130	07.11.19 19.31		
1,4-Difluorobenzene	540-36-3	90	%	70-130	07.11.19 19.31		



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS16**
Lab Sample Id: 630294-016

Matrix: Soil
Date Collected: 07.08.19 12.56

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094918

Date Prep: 07.10.19 09.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	188	4.96	mg/kg	07.10.19 12.48		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095086

Date Prep: 07.10.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	31.3	15.0	mg/kg	07.11.19 07.16		1
Diesel Range Organics (DRO)	C10C28DRO	1070	15.0	mg/kg	07.11.19 07.16		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	23.5	15.0	mg/kg	07.11.19 07.16		1
Total TPH	PHC635	1120	15.0	mg/kg	07.11.19 07.16		1
Total GRO-DRO	PHC628	1100	15.0	mg/kg	07.11.19 07.16		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-135	07.11.19 07.16	
o-Terphenyl	84-15-1	83	%	70-135	07.11.19 07.16	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS16**
Lab Sample Id: 630294-016

Matrix: Soil
Date Collected: 07.08.19 12.56

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: FOV

Seq Number: 3095201

Date Prep: 07.10.19 10.50

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.11.19 18.43	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.11.19 18.43	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.11.19 18.43	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.11.19 18.43	U	1
o-Xylene	95-47-6	0.00233	0.00199	mg/kg	07.11.19 18.43		1
Total Xylenes	1330-20-7	0.00233	0.00199	mg/kg	07.11.19 18.43		1
Total BTEX		0.00233	0.00199	mg/kg	07.11.19 18.43		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	90	%	70-130	07.11.19 18.43		
4-Bromofluorobenzene	460-00-4	101	%	70-130	07.11.19 18.43		



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS17**
Lab Sample Id: 630294-017

Matrix: Soil
Date Collected: 07.08.19 12.57

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094918

Date Prep: 07.10.19 09.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	369	4.98	mg/kg	07.10.19 12.53		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095086

Date Prep: 07.10.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.11.19 07.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.11.19 07.43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	07.11.19 07.43	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	07.11.19 07.43	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	07.11.19 07.43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	07.11.19 07.43	
o-Terphenyl	84-15-1	83	%	70-135	07.11.19 07.43	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS17**
Lab Sample Id: 630294-017

Matrix: Soil
Date Collected: 07.08.19 12.57

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: DVM

Analyst: FOV

Seq Number: 3095201

Prep Method: SW5030B

% Moisture:

Date Prep: 07.10.19 10.50

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.11.19 14.19	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.11.19 14.19	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.11.19 14.19	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.11.19 14.19	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.11.19 14.19	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.11.19 14.19	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.11.19 14.19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	07.11.19 14.19		
4-Bromofluorobenzene	460-00-4	115	%	70-130	07.11.19 14.19		



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS18**
Lab Sample Id: 630294-018

Matrix: Soil
Date Collected: 07.08.19 12.58

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094918

Date Prep: 07.10.19 09.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	234	5.04	mg/kg	07.10.19 13.07		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095086

Date Prep: 07.10.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	20.0	15.0	mg/kg	07.11.19 08.10		1
Diesel Range Organics (DRO)	C10C28DRO	732	15.0	mg/kg	07.11.19 08.10		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	19.4	15.0	mg/kg	07.11.19 08.10		1
Total TPH	PHC635	771	15.0	mg/kg	07.11.19 08.10		1
Total GRO-DRO	PHC628	752	15.0	mg/kg	07.11.19 08.10		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-135	07.11.19 08.10	
o-Terphenyl	84-15-1	80	%	70-135	07.11.19 08.10	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS18**
Lab Sample Id: 630294-018

Matrix: Soil
Date Collected: 07.08.19 12.58

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DVM

% Moisture:

Analyst: FOV

Date Prep: 07.10.19 10.50

Basis: Wet Weight

Seq Number: 3095201

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.11.19 19.54	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.11.19 19.54	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.11.19 19.54	U	1
m,p-Xylenes	179601-23-1	0.00512	0.00399	mg/kg	07.11.19 19.54		1
o-Xylene	95-47-6	0.0214	0.00200	mg/kg	07.11.19 19.54		1
Total Xylenes	1330-20-7	0.0265	0.00200	mg/kg	07.11.19 19.54		1
Total BTEX		0.0265	0.00200	mg/kg	07.11.19 19.54		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	71	%	70-130	07.11.19 19.54		
1,4-Difluorobenzene	540-36-3	68	%	70-130	07.11.19 19.54	**	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS19**
Lab Sample Id: 630294-019

Matrix: Soil
Date Collected: 07.08.19 12.59

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094918

Date Prep: 07.10.19 09.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	187	5.00	mg/kg	07.10.19 13.12		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095086

Date Prep: 07.10.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	79.0	15.0	mg/kg	07.11.19 08.38		1
Diesel Range Organics (DRO)	C10C28DRO	1770	15.0	mg/kg	07.11.19 08.38		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	33.2	15.0	mg/kg	07.11.19 08.38		1
Total TPH	PHC635	1880	15.0	mg/kg	07.11.19 08.38		1
Total GRO-DRO	PHC628	1850	15.0	mg/kg	07.11.19 08.38		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	07.11.19 08.38	
o-Terphenyl	84-15-1	82	%	70-135	07.11.19 08.38	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS19**
Lab Sample Id: 630294-019

Matrix: Soil
Date Collected: 07.08.19 12.59

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DVM

% Moisture:

Analyst: FOV

Date Prep: 07.10.19 10.50

Basis: Wet Weight

Seq Number: 3095201

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.11.19 20.18	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.11.19 20.18	U	1
Ethylbenzene	100-41-4	0.00374	0.00200	mg/kg	07.11.19 20.18		1
m,p-Xylenes	179601-23-1	0.0146	0.00401	mg/kg	07.11.19 20.18		1
o-Xylene	95-47-6	0.0124	0.00200	mg/kg	07.11.19 20.18		1
Total Xylenes	1330-20-7	0.0270	0.00200	mg/kg	07.11.19 20.18		1
Total BTEX		0.0307	0.00200	mg/kg	07.11.19 20.18		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	63	%	70-130	07.11.19 20.18	**	
4-Bromofluorobenzene	460-00-4	112	%	70-130	07.11.19 20.18		



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS20**
Lab Sample Id: 630294-020

Matrix: Soil
Date Collected: 07.08.19 13.00

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094918

Date Prep: 07.10.19 09.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	285	4.97	mg/kg	07.10.19 13.17		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095086

Date Prep: 07.10.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.11.19 09.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	35.5	14.9	mg/kg	07.11.19 09.05		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	07.11.19 09.05	U	1
Total TPH	PHC635	35.5	14.9	mg/kg	07.11.19 09.05		1
Total GRO-DRO	PHC628	35.5	14.9	mg/kg	07.11.19 09.05		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-135	07.11.19 09.05	
o-Terphenyl	84-15-1	83	%	70-135	07.11.19 09.05	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS20**
Lab Sample Id: 630294-020

Matrix: Soil
Date Collected: 07.08.19 13.00

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DVM

% Moisture:

Analyst: FOV

Date Prep: 07.10.19 10.50

Basis: Wet Weight

Seq Number: 3095201

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.11.19 14.44	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.11.19 14.44	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.11.19 14.44	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.11.19 14.44	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.11.19 14.44	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.11.19 14.44	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.11.19 14.44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	118	%	70-130	07.11.19 14.44		
1,4-Difluorobenzene	540-36-3	105	%	70-130	07.11.19 14.44		



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: FS21
Lab Sample Id: 630294-021

Matrix: Soil
Date Collected: 07.08.19 13.05

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094918

Date Prep: 07.10.19 09.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	175	5.00	mg/kg	07.10.19 13.22		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095160

Date Prep: 07.11.19 16.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.12.19 00.37	U	1
Diesel Range Organics (DRO)	C10C28DRO	16.6	14.9	mg/kg	07.12.19 00.37		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	07.12.19 00.37	U	1
Total TPH	PHC635	16.6	14.9	mg/kg	07.12.19 00.37		1
Total GRO-DRO	PHC628	16.6	14.9	mg/kg	07.12.19 00.37		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	07.12.19 00.37	
o-Terphenyl	84-15-1	93	%	70-135	07.12.19 00.37	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **FS21**
Lab Sample Id: 630294-021

Matrix: **Soil**
Date Collected: 07.08.19 13.05

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: **ALG**

% Moisture:

Analyst: **FOV**

Date Prep: 07.10.19 11.35

Basis: **Wet Weight**

Seq Number: 3095198

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.12.19 00.36	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.12.19 00.36	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.12.19 00.36	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.12.19 00.36	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.12.19 00.36	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.12.19 00.36	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.12.19 00.36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	105	%	70-130	07.12.19 00.36		
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.12.19 00.36		



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: FS22
Lab Sample Id: 630294-022

Matrix: Soil
Date Collected: 07.08.19 13.10

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094918

Date Prep: 07.10.19 09.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	183	5.00	mg/kg	07.10.19 13.27		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095160

Date Prep: 07.11.19 16.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.12.19 01.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	19.2	15.0	mg/kg	07.12.19 01.40		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.12.19 01.40	U	1
Total TPH	PHC635	19.2	15.0	mg/kg	07.12.19 01.40		1
Total GRO-DRO	PHC628	19.2	15.0	mg/kg	07.12.19 01.40		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	07.12.19 01.40	
o-Terphenyl	84-15-1	91	%	70-135	07.12.19 01.40	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: FS22
Lab Sample Id: 630294-022

Matrix: Soil
Date Collected: 07.08.19 13.10

Date Received: 07.09.19 16.42
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALG

% Moisture:

Analyst: FOV

Date Prep: 07.10.19 11.35

Basis: Wet Weight

Seq Number: 3095198

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.12.19 01.00	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.12.19 01.00	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.12.19 01.00	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.12.19 01.00	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.12.19 01.00	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.12.19 01.00	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.12.19 01.00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	70-130	07.12.19 01.00		
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.12.19 01.00		



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **SW02**
Lab Sample Id: 630294-023

Matrix: Soil
Date Collected: 07.08.19 10.46

Date Received: 07.09.19 16.42
Sample Depth: 0.5 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094918

Date Prep: 07.10.19 09.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	385	5.00	mg/kg	07.10.19 13.32		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095160

Date Prep: 07.11.19 16.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.12.19 02.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	24.5	15.0	mg/kg	07.12.19 02.01		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.12.19 02.01	U	1
Total TPH	PHC635	24.5	15.0	mg/kg	07.12.19 02.01		1
Total GRO-DRO	PHC628	24.5	15.0	mg/kg	07.12.19 02.01		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	07.12.19 02.01	
o-Terphenyl	84-15-1	95	%	70-135	07.12.19 02.01	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **SW02**
Lab Sample Id: 630294-023

Matrix: Soil
Date Collected: 07.08.19 10.46

Date Received: 07.09.19 16.42
Sample Depth: 0.5 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: FOV

Seq Number: 3095198

Date Prep: 07.10.19 11.35

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.12.19 01.23	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.12.19 01.23	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.12.19 01.23	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.12.19 01.23	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.12.19 01.23	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.12.19 01.23	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.12.19 01.23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	91	%	70-130	07.12.19 01.23		
4-Bromofluorobenzene	460-00-4	122	%	70-130	07.12.19 01.23		



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **SW03**
Lab Sample Id: 630294-024

Matrix: Soil
Date Collected: 07.08.19 12.10

Date Received: 07.09.19 16.42
Sample Depth: 0.5 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094918

Date Prep: 07.10.19 09.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1060	5.03	mg/kg	07.10.19 13.46		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095160

Date Prep: 07.11.19 16.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.12.19 02.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	34.7	14.9	mg/kg	07.12.19 02.22		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	07.12.19 02.22	U	1
Total TPH	PHC635	34.7	14.9	mg/kg	07.12.19 02.22		1
Total GRO-DRO	PHC628	34.7	14.9	mg/kg	07.12.19 02.22		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	07.12.19 02.22	
o-Terphenyl	84-15-1	96	%	70-135	07.12.19 02.22	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **SW03**
Lab Sample Id: 630294-024

Matrix: Soil
Date Collected: 07.08.19 12.10

Date Received: 07.09.19 16.42
Sample Depth: 0.5 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALG

% Moisture:

Analyst: FOV

Date Prep: 07.10.19 11.35

Basis: Wet Weight

Seq Number: 3095198

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.12.19 01.46	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.12.19 01.46	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.12.19 01.46	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.12.19 01.46	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.12.19 01.46	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.12.19 01.46	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.12.19 01.46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	07.12.19 01.46		
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.12.19 01.46		



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **SW04**
Lab Sample Id: 630294-025

Matrix: Soil
Date Collected: 07.08.19 12.15

Date Received: 07.09.19 16.42
Sample Depth: 0.5 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094918

Date Prep: 07.10.19 09.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	166	4.99	mg/kg	07.10.19 13.51		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095160

Date Prep: 07.11.19 16.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.12.19 02.43	U	1
Diesel Range Organics (DRO)	C10C28DRO	29.2	15.0	mg/kg	07.12.19 02.43		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.12.19 02.43	U	1
Total TPH	PHC635	29.2	15.0	mg/kg	07.12.19 02.43		1
Total GRO-DRO	PHC628	29.2	15.0	mg/kg	07.12.19 02.43		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	07.12.19 02.43	
o-Terphenyl	84-15-1	94	%	70-135	07.12.19 02.43	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **SW04**
Lab Sample Id: 630294-025

Matrix: Soil
Date Collected: 07.08.19 12.15

Date Received: 07.09.19 16.42
Sample Depth: 0.5 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALG

% Moisture:

Analyst: FOV

Date Prep: 07.10.19 11.35

Basis: Wet Weight

Seq Number: 3095198

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.12.19 02.09	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.12.19 02.09	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.12.19 02.09	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.12.19 02.09	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.12.19 02.09	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.12.19 02.09	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.12.19 02.09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	117	%	70-130	07.12.19 02.09		
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.12.19 02.09		



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **SW05**
Lab Sample Id: 630294-026

Matrix: Soil
Date Collected: 07.08.19 12.20

Date Received: 07.09.19 16.42
Sample Depth: 0.5 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094918

Date Prep: 07.10.19 09.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1790	25.3	mg/kg	07.10.19 14.05		5

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095160

Date Prep: 07.11.19 16.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	62.6	15.0	mg/kg	07.12.19 03.03		1
Diesel Range Organics (DRO)	C10C28DRO	1960	15.0	mg/kg	07.12.19 03.03		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	143	15.0	mg/kg	07.12.19 03.03		1
Total TPH	PHC635	2170	15.0	mg/kg	07.12.19 03.03		1
Total GRO-DRO	PHC628	2020	15.0	mg/kg	07.12.19 03.03		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	07.12.19 03.03	
o-Terphenyl	84-15-1	119	%	70-135	07.12.19 03.03	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **SW05**
Lab Sample Id: 630294-026

Matrix: Soil
Date Collected: 07.08.19 12.20

Date Received: 07.09.19 16.42
Sample Depth: 0.5 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: FOV

Seq Number: 3095198

Date Prep: 07.10.19 11.35

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.12.19 02.32	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.12.19 02.32	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.12.19 02.32	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.12.19 02.32	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.12.19 02.32	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.12.19 02.32	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.12.19 02.32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	85	%	70-130	07.12.19 02.32		
4-Bromofluorobenzene	460-00-4	115	%	70-130	07.12.19 02.32		



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **SW06**
Lab Sample Id: 630294-027

Matrix: Soil
Date Collected: 07.08.19 12.25

Date Received: 07.09.19 16.42
Sample Depth: 0.5 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094918

Date Prep: 07.10.19 09.50

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	625	4.99	mg/kg	07.10.19 14.10		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3095160

Date Prep: 07.11.19 16.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.12.19 03.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	286	15.0	mg/kg	07.12.19 03.24		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	44.3	15.0	mg/kg	07.12.19 03.24		1
Total TPH	PHC635	330	15.0	mg/kg	07.12.19 03.24		1
Total GRO-DRO	PHC628	286	15.0	mg/kg	07.12.19 03.24		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	95	%	70-135	07.12.19 03.24	
o-Terphenyl	84-15-1	94	%	70-135	07.12.19 03.24	



Certificate of Analytical Results 630294



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **SW06**
Lab Sample Id: 630294-027

Matrix: Soil
Date Collected: 07.08.19 12.25

Date Received: 07.09.19 16.42
Sample Depth: 0.5 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: FOV

Seq Number: 3095198

Date Prep: 07.10.19 11.35

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.12.19 02.55	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.12.19 02.55	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.12.19 02.55	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	07.12.19 02.55	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.12.19 02.55	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.12.19 02.55	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.12.19 02.55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	91	%	70-130	07.12.19 02.55		
4-Bromofluorobenzene	460-00-4	128	%	70-130	07.12.19 02.55		



Flagging Criteria



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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU 23 DTD 108 H

Analytical Method: Chloride by EPA 300

Seq Number: 3094890

MB Sample Id: 7681695-1-BLK

Matrix: Solid

LCS Sample Id: 7681695-1-BKS

Prep Method: E300P

Date Prep: 07.10.19

LCSD Sample Id: 7681695-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	237	95	239	96	90-110	1	20	mg/kg	07.10.19 09:34	

Analytical Method: Chloride by EPA 300

Seq Number: 3094918

MB Sample Id: 7681697-1-BLK

Matrix: Solid

LCS Sample Id: 7681697-1-BKS

Prep Method: E300P

Date Prep: 07.10.19

LCSD Sample Id: 7681697-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	237	95	236	94	90-110	0	20	mg/kg	07.10.19 12:14	

Analytical Method: Chloride by EPA 300

Seq Number: 3094890

Parent Sample Id: 630293-002

Matrix: Soil

MS Sample Id: 630293-002 S

Prep Method: E300P

Date Prep: 07.10.19

MSD Sample Id: 630293-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2.98	253	254	99	254	99	90-110	0	20	mg/kg	07.10.19 09:49	

Analytical Method: Chloride by EPA 300

Seq Number: 3094890

Parent Sample Id: 630294-003

Matrix: Soil

MS Sample Id: 630294-003 S

Prep Method: E300P

Date Prep: 07.10.19

MSD Sample Id: 630294-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	320	252	547	90	547	90	90-110	0	20	mg/kg	07.10.19 10:57	

Analytical Method: Chloride by EPA 300

Seq Number: 3094918

Parent Sample Id: 630294-013

Matrix: Soil

MS Sample Id: 630294-013 S

Prep Method: E300P

Date Prep: 07.10.19

MSD Sample Id: 630294-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	60.4	250	307	99	306	98	90-110	0	20	mg/kg	07.10.19 12:29	

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

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

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

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



LT Environmental, Inc.

PLU 23 DTD 108 H

Analytical Method: Chloride by EPA 300

Seq Number: 3094918

Parent Sample Id: 630294-023

Matrix: Soil

MS Sample Id: 630294-023 S

Prep Method: E300P

Date Prep: 07.10.19

MSD Sample Id: 630294-023 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	385	250	606	88	607	89	90-110	0	20	mg/kg	07.10.19 13:36	X

Analytical Method: TPH by SW8015 Mod

Seq Number: 3095086

MB Sample Id: 7681751-1-BLK

Matrix: Solid

LCS Sample Id: 7681751-1-BKS

Prep Method: TX1005P

Date Prep: 07.10.19

LCSD Sample Id: 7681751-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1110	111	1080	108	70-135	3	20	mg/kg	07.10.19 22:21	
Diesel Range Organics (DRO)	<8.13	1000	1060	106	1140	114	70-135	7	20	mg/kg	07.10.19 22:21	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	92		89		92		70-135	%	07.10.19 22:21
o-Terphenyl	74		75		96		70-135	%	07.10.19 22:21

Analytical Method: TPH by SW8015 Mod

Seq Number: 3095160

MB Sample Id: 7681864-1-BLK

Matrix: Solid

LCS Sample Id: 7681864-1-BKS

Prep Method: TX1005P

Date Prep: 07.11.19

LCSD Sample Id: 7681864-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1140	114	1140	114	70-135	0	20	mg/kg	07.11.19 23:33	
Diesel Range Organics (DRO)	<8.13	1000	1130	113	1080	108	70-135	5	20	mg/kg	07.11.19 23:33	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	110		122		126		70-135	%	07.11.19 23:33
o-Terphenyl	108		108		109		70-135	%	07.11.19 23:33

Analytical Method: TPH by SW8015 Mod

Seq Number: 3095086

Parent Sample Id: 630294-001

Matrix: Soil

MS Sample Id: 630294-001 S

Prep Method: TX1005P

Date Prep: 07.10.19

MSD Sample Id: 630294-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	8.15	999	846	84	870	87	70-135	3	20	mg/kg	07.10.19 23:42	
Diesel Range Organics (DRO)	<8.12	999	939	94	990	99	70-135	5	20	mg/kg	07.10.19 23:42	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	76		71		70-135	%	07.10.19 23:42
o-Terphenyl	79		80		70-135	%	07.10.19 23:42

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

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

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

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



LT Environmental, Inc.

PLU 23 DTD 108 H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3095160

Parent Sample Id: 630294-021

Matrix: Soil

MS Sample Id: 630294-021 S

Prep Method: TX1005P

Date Prep: 07.11.19

MSD Sample Id: 630294-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<7.99	999	1080	108	1100	110	70-135	2	20	mg/kg	07.12.19 00:58	
Diesel Range Organics (DRO)	16.6	999	1010	99	1010	100	70-135	0	20	mg/kg	07.12.19 00:58	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	117		122		70-135	%	07.12.19 00:58
o-Terphenyl	100		102		70-135	%	07.12.19 00:58

Analytical Method: BTEX by EPA 8021B

Seq Number: 3095201

MB Sample Id: 7681708-1-BLK

Matrix: Solid

LCS Sample Id: 7681708-1-BKS

Prep Method: SW5030B

Date Prep: 07.10.19

LCSD Sample Id: 7681708-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0898	90	0.0973	97	70-130	8	35	mg/kg	07.11.19 05:11	
Toluene	0.000580	0.100	0.0908	91	0.0985	99	70-130	8	35	mg/kg	07.11.19 05:11	
Ethylbenzene	<0.000565	0.100	0.0940	94	0.102	102	70-130	8	35	mg/kg	07.11.19 05:11	
m,p-Xylenes	<0.00101	0.200	0.183	92	0.199	100	70-130	8	35	mg/kg	07.11.19 05:11	
o-Xylene	<0.000344	0.100	0.0868	87	0.0949	95	70-130	9	35	mg/kg	07.11.19 05:11	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		96		97		70-130	%	07.11.19 05:11
4-Bromofluorobenzene	93		89		89		70-130	%	07.11.19 05:11

Analytical Method: BTEX by EPA 8021B

Seq Number: 3095198

MB Sample Id: 7681740-1-BLK

Matrix: Solid

LCS Sample Id: 7681740-1-BKS

Prep Method: SW5030B

Date Prep: 07.10.19

LCSD Sample Id: 7681740-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0976	98	0.0864	86	70-130	12	35	mg/kg	07.11.19 22:09	
Toluene	0.000540	0.100	0.0961	96	0.0890	89	70-130	8	35	mg/kg	07.11.19 22:09	
Ethylbenzene	<0.00200	0.100	0.0965	97	0.0954	95	70-130	1	35	mg/kg	07.11.19 22:09	
m,p-Xylenes	<0.00101	0.200	0.191	96	0.184	92	70-130	4	35	mg/kg	07.11.19 22:09	
o-Xylene	<0.000344	0.100	0.0924	92	0.0971	97	70-130	5	35	mg/kg	07.11.19 22:09	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		98		97		70-130	%	07.11.19 22:09
4-Bromofluorobenzene	97		91		95		70-130	%	07.11.19 22:09

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

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



LT Environmental, Inc.

PLU 23 DTD 108 H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3095201

Parent Sample Id: 630294-001

Matrix: Soil

MS Sample Id: 630294-001 S

Prep Method: SW5030B

Date Prep: 07.10.19

MSD Sample Id: 630294-001 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	0.100	0.0947	95	0.0869	87	70-130	9	35	mg/kg	07.11.19 05:58	
Toluene	<0.00201	0.100	0.0935	94	0.0859	86	70-130	8	35	mg/kg	07.11.19 05:58	
Ethylbenzene	<0.00201	0.100	0.0949	95	0.0870	87	70-130	9	35	mg/kg	07.11.19 05:58	
m,p-Xylenes	<0.00102	0.201	0.184	92	0.169	85	70-130	8	35	mg/kg	07.11.19 05:58	
o-Xylene	<0.00201	0.100	0.0884	88	0.0811	81	70-130	9	35	mg/kg	07.11.19 05:58	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		101		70-130	%	07.11.19 05:58
4-Bromofluorobenzene	95		97		70-130	%	07.11.19 05:58

Analytical Method: BTEX by EPA 8021B

Seq Number: 3095198

Parent Sample Id: 630294-021

Matrix: Soil

MS Sample Id: 630294-021 S

Prep Method: SW5030B

Date Prep: 07.10.19

MSD Sample Id: 630294-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0870	88	0.0815	82	70-130	7	35	mg/kg	07.11.19 22:56	
Toluene	<0.00199	0.0994	0.0830	84	0.0825	83	70-130	1	35	mg/kg	07.11.19 22:56	
Ethylbenzene	<0.00199	0.0994	0.0814	82	0.0806	81	70-130	1	35	mg/kg	07.11.19 22:56	
m,p-Xylenes	<0.00398	0.199	0.109	55	0.144	72	70-130	28	35	mg/kg	07.11.19 22:56	X
o-Xylene	<0.00199	0.0994	0.0834	84	0.0823	82	70-130	1	35	mg/kg	07.11.19 22:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		98		70-130	%	07.11.19 22:56
4-Bromofluorobenzene	98		102		70-130	%	07.11.19 22:56

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

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

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

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



Chain of Custody

Work Order No:

630294

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

Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Casabad, NM (432) 704-5440

Phoenix, AZ (480) 335-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 699-6701

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Project Manager:	Dan Moir	Bill to: (if different)	Vyle Littrell
Company Name:	LT Environmental	Company Name:	KTB
Address:	3300 North A Street	Address:	3104 E. Greene Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Casabad NM 88720
Phone:	432 335 3849	Email:	moir@xenco.com

Project Name:	PLU 3357D 1084	Turn Around:	☐ Routine ☒ Rush
Project Number:	012919134	Rush:	3000
Project Location:	Eddy County	Due Date:	
Sampler's Name:	Anna Byers		
PO #:	202-4840	Quote #:	

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

Project Name:	PLU 3357D 1084	Turn Around:	☐ Routine ☒ Rush
Project Number:	012919134	Rush:	3000
Project Location:	Eddy County	Due Date:	
Sampler's Name:	Anna Byers		
PO #:	202-4840	Quote #:	

Temp Blank:	Yes ☒ No ☐	Wet Ice:	Yes ☒ No ☐
Temperature (°C):	3.2(3.1)	Thermometer ID:	100
Received Intact:	No	Correction Factor:	0.0
Cooler Custody Seals:	Yes ☐ No ☒	Total Containers:	1
Sample Custody Seals:	Yes ☐ No ☒		

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST	Preservative Codes	Sample Comments
FS01		S	7/8/19	1235	4.5'	1	TPH (EPA 8012)	MeOH: Me	
FS02		S		1237		1	BTEX (EPA 8021)	None: NO	
FS03		S		1239		1	Chloride (EPA 8000)	HNO3: HN	
FS04		S		1240		1		H2SO4: H2	
FS05		S		1241		1		HCL: HL	
FS06		S		1243		1		NaOH: Na	
FS07		S		1245		1		Zn Acetate+ NaOH: Zn	
FS08		S		1246		1			
FS09		S		1247		1			
FS10		S		1249		1			

Total 200.7 / 6010 200.8 / 6020:

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

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

1631 / 245.1 / 7470 / 7471 / Hg

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time
Anna Byers	Anna Byers	7/9/19 7:50 AM	Anna Byers	7/9/19



Chain of Custody

Work Order No:

Le 300 Jay

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 699-6701

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Project Manager:	Dan Moir	Bill to: (if different)	Wyle Littrell
Company Name:	LT Environmental	Company Name:	Wyle
Address:	3800 North A Street	Address:	3104 E. Greene Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carlsbad NM 88220
Phone:	432 236 3849	Email:	moir@ltenv.com

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

Project Name:	PLU 33 STD 1084	Turn Around:	
Project Number:	02019134	Routine:	☐
Project Location:	Eddy County	Rush:	5:00 PM
Sampler's Name:	Anna Byers	Due Date:	
PO #:	220-4870	Quote #:	

SAMPLE RECEIPT		Temperature (°C):	3.3	Yes	Wet Ice:	No
Received intact:		Thermometer ID:	102012	Yes	Correction Factor:	
Cooler Custody Seals:		Yes	No	Sample Custody Seals:	Yes	No
Sample ID:		Matrix:	Sampled	Time Sampled:	Depth:	
FS11	S	7/8/19	1250	4.5'	1	
FS12	S		1251		1	
FS13	S		1252		1	
FS14	S		1254		1	
FS15	S		1255		1	
FS16	S		1256		1	
FS17	S		1257		1	
FS18	S		1258		1	
FS19	S		1259		1	
FS20	S		1300		1	

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	Wyle Littrell	7/19/19 7:50 AM	Wyle Littrell	Wyle Littrell	7/19/19



Chain of Custody

Work Order No: 430294

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440 EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Crashtad, NM (432) 704-5440
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Project Manager:	Dan Meir	Bill to: (if different)	Wyle Littrell
Company Name:	LT Environmental	Company Name:	XTB
Address:	3350 North A Street	Address:	3104 E. Greene Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carsbad NM 88220
Phone:	432 336 3849	Email:	adys@xenco.com

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

Project Name:	PU 33 STD 1084	Turn Around	☐
Project Number:	012019134	Routine	☐
Project Location:	Eddy County	Rush:	Same Day
Sampler's Name:	Anna Byers	Due Date:	
PO #:	282-4880	Quote #:	

SAMPLE RECEIPT	Temp Blank:	Yes ☒ No ☐	Wet Ice:	Yes ☒ No ☐
Temperature (°C):	33.3	Thermometer:	De	
Received In tact:	Yes ☒ No ☐	Correction Factor:	-0.1	
Cooler Custody Seals:	Yes ☒ No ☐	Total Containers:		
Sample Custody Seals:	Yes ☒ No ☐			

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST	Preservative Codes	Sample Comments
FS21	S	7/8/19	1305	4.5'	1	TPH (EPA 8012)		MeOH: Me	
FS22	S		1310	4.5'	1	BTEX (EPA 8021)		None: NO	
SW02	S		1646	0.5-4.5'	1	EPA Chloride (300)		HNO3: HN	
SW03	S		1210		1			H2SO4: H2	
SW04	S		1215		1			HCL: HL	
SW05	S		1220		1			NaOH: Na	
SW06	S		1225		1			Zn Acetate + NaOH: Zn	
								TAT starts the day received by the lab, if received by 4:00pm	

Total 200.7 / 6010 200.8 / 6020:

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

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

1631 / 245.1 / 7470 / 7471 . Hg

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	Wyle Littrell	7/9/19 7:50 AM	Wyle Littrell	Wyle Littrell	7/9/19 11:44



Client: LT Environmental, Inc.

Date/ Time Received: 07/09/2019 04:42:00 PM

Work Order #: 630294

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	3.1
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 07/09/2019

Checklist reviewed by:

Jessica Kramer

Date: 07/10/2019

Analytical Report 630296

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 23 DTD 108 H

012919134

12-JUL-19

Collected By: Client



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

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

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

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



12-JUL-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **630296**

PLU 23 DTD 108 H

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) 630296. 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. 630296 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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



Sample Cross Reference 630296

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH13B	S	07-08-19 16:35	17 ft	630296-001
PH13C	S	07-08-19 16:45	19 ft	630296-002



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 23 DTD 108 H

Project ID: 012919134
Work Order Number(s): 630296

Report Date: 12-JUL-19
Date Received: 07/09/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3095195 BTEX by EPA 8021B

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



Certificate of Analysis Summary 630296

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108 H

Project Id: 012919134
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Tue Jul-09-19 04:42 pm
Report Date: 12-JUL-19
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	630296-001	630296-002				
	Field Id:	PH13B	PH13C				
	Depth:	17- ft	19- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Jul-08-19 16:35	Jul-08-19 16:45				
BTEX by EPA 8021B	Extracted:	Jul-10-19 09:50	Jul-10-19 09:50				
	Analyzed:	Jul-12-19 01:39	Jul-12-19 02:01				
	Units/RL:	mg/kg RL	mg/kg RL				
	Benzene	<0.00199 0.00199	<0.00198 0.00198				
	Toluene	<0.00199 0.00199	<0.00198 0.00198				
	Ethylbenzene	<0.00199 0.00199	<0.00198 0.00198				
	m,p-Xylenes	<0.00398 0.00398	<0.00397 0.00397				
	o-Xylene	<0.00199 0.00199	<0.00198 0.00198				
	Total Xylenes	<0.00199 0.00199	<0.00198 0.00198				
	Total BTEX	<0.00199 0.00199	<0.00198 0.00198				
Chloride by EPA 300	Extracted:	Jul-10-19 09:30	Jul-10-19 09:30				
	Analyzed:	Jul-10-19 10:32	Jul-10-19 10:37				
	Units/RL:	mg/kg RL	mg/kg RL				
	Chloride	2600 24.8	1120 4.95				
TPH by SW8015 Mod	Extracted:	Jul-11-19 15:00	Jul-11-19 15:00				
	Analyzed:	Jul-12-19 18:32	Jul-12-19 18:57				
	Units/RL:	mg/kg RL	mg/kg RL				
	Gasoline Range Hydrocarbons (GRO)	<15.0 15.0	<15.0 15.0				
	Diesel Range Organics (DRO)	<15.0 15.0	<15.0 15.0				
	Motor Oil Range Hydrocarbons (MRO)	<15.0 15.0	<15.0 15.0				
	Total TPH	<15.0 15.0	<15.0 15.0				
	Total GRO-DRO	<15.0 15.0	<15.0 15.0				

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

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

Jessica Kramer
Project Assistant



Certificate of Analytical Results 630296



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH13B**
Lab Sample Id: 630296-001

Matrix: Soil
Date Collected: 07.08.19 16.35

Date Received: 07.09.19 16.42
Sample Depth: 17 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094890

Date Prep: 07.10.19 09.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2600	24.8	mg/kg	07.10.19 10.32		5

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3095232

Date Prep: 07.11.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.12.19 18.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.12.19 18.32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.12.19 18.32	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.12.19 18.32	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.12.19 18.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	07.12.19 18.32	
o-Terphenyl	84-15-1	77	%	70-135	07.12.19 18.32	



Certificate of Analytical Results 630296



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH13B**
Lab Sample Id: 630296-001

Matrix: Soil
Date Collected: 07.08.19 16.35

Date Received: 07.09.19 16.42
Sample Depth: 17 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DVM

% Moisture:

Analyst: FOV

Date Prep: 07.10.19 09.50

Basis: Wet Weight

Seq Number: 3095195

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.12.19 01.39	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.12.19 01.39	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.12.19 01.39	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.12.19 01.39	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.12.19 01.39	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.12.19 01.39	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.12.19 01.39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	07.12.19 01.39		
1,4-Difluorobenzene	540-36-3	97	%	70-130	07.12.19 01.39		



Certificate of Analytical Results 630296



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH13C**
Lab Sample Id: 630296-002

Matrix: Soil
Date Collected: 07.08.19 16.45

Date Received: 07.09.19 16.42
Sample Depth: 19 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3094890

Date Prep: 07.10.19 09.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1120	4.95	mg/kg	07.10.19 10.37		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3095232

Date Prep: 07.11.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.12.19 18.57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.12.19 18.57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.12.19 18.57	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.12.19 18.57	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.12.19 18.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	07.12.19 18.57	
o-Terphenyl	84-15-1	98	%	70-135	07.12.19 18.57	



Certificate of Analytical Results 630296



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH13C**
Lab Sample Id: 630296-002

Matrix: Soil
Date Collected: 07.08.19 16.45

Date Received: 07.09.19 16.42
Sample Depth: 19 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: DVM

% Moisture:

Analyst: FOV

Date Prep: 07.10.19 09.50

Basis: Wet Weight

Seq Number: 3095195

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.12.19 02.01	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.12.19 02.01	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.12.19 02.01	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	07.12.19 02.01	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.12.19 02.01	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.12.19 02.01	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.12.19 02.01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	97	%	70-130	07.12.19 02.01		
4-Bromofluorobenzene	460-00-4	105	%	70-130	07.12.19 02.01		



Flagging Criteria



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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU 23 DTD 108 H

Analytical Method: Chloride by EPA 300

Seq Number: 3094890

MB Sample Id: 7681695-1-BLK

Matrix: Solid

LCS Sample Id: 7681695-1-BKS

Prep Method: E300P

Date Prep: 07.10.19

LCSD Sample Id: 7681695-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	237	95	239	96	90-110	1	20	mg/kg	07.10.19 09:34	

Analytical Method: Chloride by EPA 300

Seq Number: 3094890

Parent Sample Id: 630293-002

Matrix: Soil

MS Sample Id: 630293-002 S

Prep Method: E300P

Date Prep: 07.10.19

MSD Sample Id: 630293-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2.98	253	254	99	254	99	90-110	0	20	mg/kg	07.10.19 09:49	

Analytical Method: Chloride by EPA 300

Seq Number: 3094890

Parent Sample Id: 630294-003

Matrix: Soil

MS Sample Id: 630294-003 S

Prep Method: E300P

Date Prep: 07.10.19

MSD Sample Id: 630294-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	320	252	547	90	547	90	90-110	0	20	mg/kg	07.10.19 10:57	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3095232

MB Sample Id: 7681941-1-BLK

Matrix: Solid

LCS Sample Id: 7681941-1-BKS

Prep Method: TX1005P

Date Prep: 07.11.19

LCSD Sample Id: 7681941-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1090	109	1040	104	70-135	5	20	mg/kg	07.12.19 08:36	
Diesel Range Organics (DRO)	<8.13	1000	1060	106	1080	108	70-135	2	20	mg/kg	07.12.19 08:36	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		92		92		70-135	%	07.12.19 08:36
o-Terphenyl	71		78		87		70-135	%	07.12.19 08:36

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

$[D] = 100 * (C-A) / B$
 $RPD = 200 * |(C-E) / (C+E)|$
 $[D] = 100 * (C) / [B]$
 Log Diff. = 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 23 DTD 108 H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3095232

Parent Sample Id: 630531-001

Matrix: Soil

MS Sample Id: 630531-001 S

Prep Method: TX1005P

Date Prep: 07.11.19

MSD Sample Id: 630531-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	13.4	999	988	98	1030	102	70-135	4	20	mg/kg	07.12.19 09:51	
Diesel Range Organics (DRO)	10.9	999	1050	104	1080	107	70-135	3	20	mg/kg	07.12.19 09:51	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	89		94		70-135	%	07.12.19 09:51
o-Terphenyl	91		82		70-135	%	07.12.19 09:51

Analytical Method: BTEX by EPA 8021B

Seq Number: 3095195

MB Sample Id: 7681707-1-BLK

Matrix: Solid

LCS Sample Id: 7681707-1-BKS

Prep Method: SW5030B

Date Prep: 07.10.19

LCSD Sample Id: 7681707-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0916	92	0.0927	93	70-130	1	35	mg/kg	07.11.19 20:47	
Toluene	<0.00200	0.100	0.0906	91	0.0918	92	70-130	1	35	mg/kg	07.11.19 20:47	
Ethylbenzene	<0.00200	0.100	0.100	100	0.102	102	70-130	2	35	mg/kg	07.11.19 20:47	
m,p-Xylenes	<0.00400	0.200	0.202	101	0.205	103	70-130	1	35	mg/kg	07.11.19 20:47	
o-Xylene	<0.00200	0.100	0.0992	99	0.103	103	70-130	4	35	mg/kg	07.11.19 20:47	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		93		98		70-130	%	07.11.19 20:47
4-Bromofluorobenzene	102		106		120		70-130	%	07.11.19 20:47

Analytical Method: BTEX by EPA 8021B

Seq Number: 3095195

Parent Sample Id: 630312-001

Matrix: Soil

MS Sample Id: 630312-001 S

Prep Method: SW5030B

Date Prep: 07.10.19

MSD Sample Id: 630312-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0733	73	0.0692	70	70-130	6	35	mg/kg	07.11.19 21:31	
Toluene	<0.00200	0.100	0.0596	60	0.0572	58	70-130	4	35	mg/kg	07.11.19 21:31	X
Ethylbenzene	<0.00200	0.100	0.0439	44	0.0417	42	70-130	5	35	mg/kg	07.11.19 21:31	X
m,p-Xylenes	<0.00401	0.200	0.103	52	0.100	50	70-130	3	35	mg/kg	07.11.19 21:31	X
o-Xylene	<0.00200	0.100	0.0772	77	0.0723	73	70-130	7	35	mg/kg	07.11.19 21:31	

Surrogate

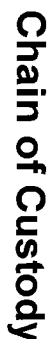
	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		90		70-130	%	07.11.19 21:31
4-Bromofluorobenzene	122		121		70-130	%	07.11.19 21:31

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



630914

Page 1 of 1

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

SAMPLE RECEIPT			
Temp Blank:	Yes	No	Wet Ice: Yes No
Temperature (°C):	22/31 Thermometer		
Received In tact:	Yes	No	
Cooler Custody Seals:	Yes	No	Correction Factor: -0.5
Sample Custody Seals:	Yes	No	N/A Total Containers:

Number of Containers

(EPA 8015)

(EPA 0=8021)

(EPA 300.0)

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (E)	BTEX (E)	Chloride	Sample Comments									
PH13B	S	07/08/19	16:35	17'	1	X	X	X										
PH13C	S	07/08/19	16:45	19'	1	X	X	X										
Anna Byers																		

1631 / 245.1 / 7470 / 7471 : Hg

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 <u>Anna Byars</u>	<u>[Signature]</u>	<u>07/09/2019 7:50</u>	<u>[Signature]</u>	<u>[Signature]</u>	<u>7/9/19</u>
3			4		<u>7/9/19</u>
5			6		



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 07/09/2019 04:42:00 PM

Work Order #: 630296

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	3.1
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	N/A
#5 Custody Seals intact on sample bottles?	N/A
#6 *Custody Seals Signed and dated?	N/A
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 07/09/2019

Checklist reviewed by:

Jessica Kramer

Date: 07/10/2019

Analytical Report 630531

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 23 DTD 108 H

012919134

12-JUL-19

Collected By: Client



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

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

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

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



12-JUL-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **630531**

PLU 23 DTD 108 H

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) 630531. 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. 630531 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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

**Sample Cross Reference 630531****LT Environmental, Inc., Arvada, CO**

PLU 23 DTD 108 H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH29	S	07-09-19 10:00	0.5 ft	630531-001
PH29A	S	07-09-19 10:20	4.5 ft	630531-002
PH30	S	07-09-19 10:40	0.5 ft	630531-003
PH30A	S	07-09-19 10:55	4.5 ft	630531-004



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 23 DTD 108 H

Project ID: 012919134
Work Order Number(s): 630531

Report Date: 12-JUL-19
Date Received: 07/11/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3095232 TPH by SW8015 Mod

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

Samples affected are: 630531-004.

Batch: LBA-3095233 BTEX by EPA 8021B

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



Certificate of Analysis Summary 630531

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108 H

Project Id: 012919134
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Thu Jul-11-19 11:26 am
Report Date: 12-JUL-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	630531-001	630531-002	630531-003	630531-004		
	<i>Field Id:</i>	PH29	PH29A	PH30	PH30A		
	<i>Depth:</i>	0.5- ft	4.5- ft	0.5- ft	4.5- ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	Jul-09-19 10:00	Jul-09-19 10:20	Jul-09-19 10:40	Jul-09-19 10:55		
BTEX by EPA 8021B	<i>Extracted:</i>	Jul-11-19 14:08	Jul-11-19 14:08	Jul-11-19 14:08	Jul-11-19 14:08		
	<i>Analyzed:</i>	Jul-12-19 13:08	Jul-12-19 13:32	Jul-12-19 15:19	Jul-12-19 15:42		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Toluene		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Ethylbenzene		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
m,p-Xylenes		<0.00403 0.00403	<0.00401 0.00401	<0.00399 0.00399	<0.00399 0.00399		
o-Xylene		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Total Xylenes		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Total BTEX		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200		
Chloride by EPA 300	<i>Extracted:</i>	Jul-11-19 13:00	Jul-11-19 13:00	Jul-11-19 13:00	Jul-11-19 13:00		
	<i>Analyzed:</i>	Jul-11-19 14:23	Jul-11-19 14:45	Jul-11-19 14:52	Jul-11-19 14:59		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		107 5.02	30.5 4.99	60.8 4.96	65.9 5.03		
TPH by SW8015 Mod	<i>Extracted:</i>	Jul-11-19 15:00	Jul-11-19 15:00	Jul-11-19 15:00	Jul-11-19 15:00		
	<i>Analyzed:</i>	Jul-12-19 09:26	Jul-12-19 10:40	Jul-12-19 11:05	Jul-12-19 11:30		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0		

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

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

Jessica Kramer
Project Assistant



Certificate of Analytical Results 630531



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH29**
Lab Sample Id: 630531-001

Matrix: Soil
Date Collected: 07.09.19 10.00

Date Received: 07.11.19 11.26
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3095177

Date Prep: 07.11.19 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	107	5.02	mg/kg	07.11.19 14.23		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3095232

Date Prep: 07.11.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.12.19 09.26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.12.19 09.26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.12.19 09.26	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.12.19 09.26	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.12.19 09.26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	07.12.19 09.26	
o-Terphenyl	84-15-1	78	%	70-135	07.12.19 09.26	



Certificate of Analytical Results 630531



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH29**
Lab Sample Id: 630531-001

Matrix: Soil
Date Collected: 07.09.19 10.00

Date Received: 07.11.19 11.26
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALG

% Moisture:

Analyst: FOV

Date Prep: 07.11.19 14.08

Basis: Wet Weight

Seq Number: 3095233

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.12.19 13.08	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.12.19 13.08	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.12.19 13.08	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	07.12.19 13.08	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.12.19 13.08	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.12.19 13.08	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.12.19 13.08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	91	%	70-130	07.12.19 13.08		
4-Bromofluorobenzene	460-00-4	106	%	70-130	07.12.19 13.08		



Certificate of Analytical Results 630531



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH29A**
Lab Sample Id: 630531-002

Matrix: Soil
Date Collected: 07.09.19 10.20

Date Received: 07.11.19 11.26
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3095177

Date Prep: 07.11.19 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	30.5	4.99	mg/kg	07.11.19 14.45		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3095232

Date Prep: 07.11.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.12.19 10.40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.12.19 10.40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.12.19 10.40	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.12.19 10.40	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.12.19 10.40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	07.12.19 10.40	
o-Terphenyl	84-15-1	74	%	70-135	07.12.19 10.40	



Certificate of Analytical Results 630531



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH29A**
Lab Sample Id: 630531-002

Matrix: Soil
Date Collected: 07.09.19 10.20

Date Received: 07.11.19 11.26
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: FOV

Seq Number: 3095233

Date Prep: 07.11.19 14.08

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	07.12.19 13.32	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.12.19 13.32	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.12.19 13.32	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.12.19 13.32	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.12.19 13.32	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.12.19 13.32	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.12.19 13.32	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	07.12.19 13.32		
1,4-Difluorobenzene	540-36-3	93	%	70-130	07.12.19 13.32		



Certificate of Analytical Results 630531



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH30**
Lab Sample Id: 630531-003

Matrix: Soil
Date Collected: 07.09.19 10.40

Date Received: 07.11.19 11.26
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3095177

Date Prep: 07.11.19 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	60.8	4.96	mg/kg	07.11.19 14.52		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3095232

Date Prep: 07.11.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.12.19 11.05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.12.19 11.05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.12.19 11.05	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.12.19 11.05	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.12.19 11.05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	07.12.19 11.05	
o-Terphenyl	84-15-1	74	%	70-135	07.12.19 11.05	



Certificate of Analytical Results 630531

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH30**
 Lab Sample Id: 630531-003

Matrix: Soil
 Date Collected: 07.09.19 10.40

Date Received: 07.11.19 11.26
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: FOV

Seq Number: 3095233

Date Prep: 07.11.19 14.08

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	07.12.19 15.19	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.12.19 15.19	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.12.19 15.19	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.12.19 15.19	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.12.19 15.19	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.12.19 15.19	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.12.19 15.19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	100	%	70-130	07.12.19 15.19		
1,4-Difluorobenzene	540-36-3	90	%	70-130	07.12.19 15.19		



Certificate of Analytical Results 630531



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH30A**
Lab Sample Id: 630531-004

Matrix: Soil
Date Collected: 07.09.19 10.55

Date Received: 07.11.19 11.26
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3095177

Date Prep: 07.11.19 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	65.9	5.03	mg/kg	07.11.19 14.59		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3095232

Date Prep: 07.11.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.12.19 11.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.12.19 11.30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.12.19 11.30	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.12.19 11.30	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.12.19 11.30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	07.12.19 11.30	
o-Terphenyl	84-15-1	65	%	70-135	07.12.19 11.30	**



Certificate of Analytical Results 630531



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH30A**
Lab Sample Id: 630531-004

Matrix: Soil
Date Collected: 07.09.19 10.55

Date Received: 07.11.19 11.26
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: FOV

Seq Number: 3095233

Date Prep: 07.11.19 14.08

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	07.12.19 15.42	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.12.19 15.42	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.12.19 15.42	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.12.19 15.42	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.12.19 15.42	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.12.19 15.42	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.12.19 15.42	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	105	%	70-130	07.12.19 15.42		
1,4-Difluorobenzene	540-36-3	93	%	70-130	07.12.19 15.42		



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 Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU 23 DTD 108 H

Analytical Method: Chloride by EPA 300

Seq Number: 3095177

MB Sample Id: 7681833-1-BLK

Matrix: Solid

LCS Sample Id: 7681833-1-BKS

Prep Method: E300P

Date Prep: 07.11.19

LCSD Sample Id: 7681833-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	243	97	244	98	90-110	0	20	mg/kg	07.11.19 14:08	

Analytical Method: Chloride by EPA 300

Seq Number: 3095177

Parent Sample Id: 630531-001

Matrix: Soil

MS Sample Id: 630531-001 S

Prep Method: E300P

Date Prep: 07.11.19

MSD Sample Id: 630531-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	107	251	359	100	359	100	90-110	0	20	mg/kg	07.11.19 14:30	

Analytical Method: Chloride by EPA 300

Seq Number: 3095177

Parent Sample Id: 630533-007

Matrix: Soil

MS Sample Id: 630533-007 S

Prep Method: E300P

Date Prep: 07.11.19

MSD Sample Id: 630533-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	503	250	736	93	735	93	90-110	0	20	mg/kg	07.11.19 16:12	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3095232

MB Sample Id: 7681941-1-BLK

Matrix: Solid

LCS Sample Id: 7681941-1-BKS

Prep Method: TX1005P

Date Prep: 07.11.19

LCSD Sample Id: 7681941-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1090	109	1040	104	70-135	5	20	mg/kg	07.12.19 08:36	
Diesel Range Organics (DRO)	<8.13	1000	1060	106	1080	108	70-135	2	20	mg/kg	07.12.19 08:36	

Surrogate

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		92		92		70-135	%	07.12.19 08:36
o-Terphenyl	71		78		87		70-135	%	07.12.19 08:36

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

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

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

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



LT Environmental, Inc.

PLU 23 DTD 108 H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3095232

Parent Sample Id: 630531-001

Matrix: Soil

MS Sample Id: 630531-001 S

Prep Method: TX1005P

Date Prep: 07.11.19

MSD Sample Id: 630531-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	13.4	999	988	98	1030	102	70-135	4	20	mg/kg	07.12.19 09:51	
Diesel Range Organics (DRO)	10.9	999	1050	104	1080	107	70-135	3	20	mg/kg	07.12.19 09:51	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	89		94		70-135	%	07.12.19 09:51
o-Terphenyl	91		82		70-135	%	07.12.19 09:51

Analytical Method: BTEX by EPA 8021B

Seq Number: 3095233

MB Sample Id: 7681851-1-BLK

Matrix: Solid

LCS Sample Id: 7681851-1-BKS

Prep Method: SW5030B

Date Prep: 07.11.19

LCSD Sample Id: 7681851-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0778	78	0.0811	81	70-130	4	35	mg/kg	07.12.19 07:37	
Toluene	0.000690	0.100	0.0975	98	0.0979	98	70-130	0	35	mg/kg	07.12.19 07:37	
Ethylbenzene	<0.00200	0.100	0.111	111	0.110	110	70-130	1	35	mg/kg	07.12.19 07:37	
m,p-Xylenes	<0.00101	0.200	0.220	110	0.217	109	70-130	1	35	mg/kg	07.12.19 07:37	
o-Xylene	<0.00200	0.100	0.104	104	0.103	103	70-130	1	35	mg/kg	07.12.19 07:37	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	87		85		88		70-130	%	07.12.19 07:37
4-Bromofluorobenzene	104		107		106		70-130	%	07.12.19 07:37

Analytical Method: BTEX by EPA 8021B

Seq Number: 3095233

Parent Sample Id: 630533-001

Matrix: Soil

MS Sample Id: 630533-001 S

Prep Method: SW5030B

Date Prep: 07.11.19

MSD Sample Id: 630533-001 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	0.100	0.0738	74	0.0756	75	70-130	2	35	mg/kg	07.12.19 08:24	
Toluene	<0.00201	0.100	0.0841	84	0.0849	84	70-130	1	35	mg/kg	07.12.19 08:24	
Ethylbenzene	<0.00201	0.100	0.0808	81	0.0808	80	70-130	0	35	mg/kg	07.12.19 08:24	
m,p-Xylenes	<0.00402	0.201	0.149	74	0.150	74	70-130	1	35	mg/kg	07.12.19 08:24	
o-Xylene	<0.00201	0.100	0.0857	86	0.0882	87	70-130	3	35	mg/kg	07.12.19 08:24	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		92		70-130	%	07.12.19 08:24
4-Bromofluorobenzene	108		110		70-130	%	07.12.19 08:24

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



Chain of Custody

Work Order No:

U30531

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3334
 Midland, TX (432) 704-5440 EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1286 Crashtad, NM (432) 704-5440
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 820-2000 West Palm Beach, FL (561) 689-6701

www.xenco.com

Page 1 of 1

Project Manager:	Dan Meir	Bill to: (if different)	Wyle Littell
Company Name:	LT Environmental	Company Name:	XTD
Address:	3500 North A Street	Address:	9104 E. Greene Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carsbad NM 88720
Phone:	432 236 3819	Email:	adys@ltenv.com

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

Project Name:	PLU 23-STD 1084	Turn Around	☐
Project Number:	02919134	Routine	☐
Project Location:	Eddy County	Rush:	Same
Sample's Name:	Anna Byers	Due Date:	
PO #:	282-4840	Quote #:	

SAMPLE RECEIPT		Temp Blank:		Yes ☒ No ☐	Wet Ice:	Yes ☒ No ☐
Temperature (°C):		CUBA		Thermometer ID:		PCD
Received In tact:		Yes ☒ No ☐		Correction Factor:		PCD
Cooler Custody Seals:		Yes ☒ No ☐ N/A		Total Containers:		4
Sample Custody Seals:		Yes ☒ No ☐ N/A				

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST	Preservative Codes	Sample Comments
PH29		S	7/9/19	1000	0.5'	1	TPH (EPA 8015)		
PH29A		S		1020	4.5'	1	BTEX (EPA 8021)		
PH30		S		1040	0.5'	1	Chloride (EPA 8000)		
PH30A		S		1055	4.5'	1			

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	Wyle Littell	7/10/2019 11:37 AM	Wyle Littell	Wyle Littell	7/10/19 12:02
Wyle Littell	Fed Ex	7/10/17 14:00			7/11/19 11:40

ORIGIN ID:CAOA (575) 988-3199
 ELIZABETH MCCLELLAN
 1089 N CANAL
 CARLSBAD, NM 88220
 UNITED STATES US

SHIP DATE: 10 JUL 19
 ACTWGT: 38.00 LB
 CAD: 7354048/NET 4100
 BILL SENDER

TO LAB RECEIVING
 XENCO MIDLAND
 3600 S. COUNTY RD. 1276

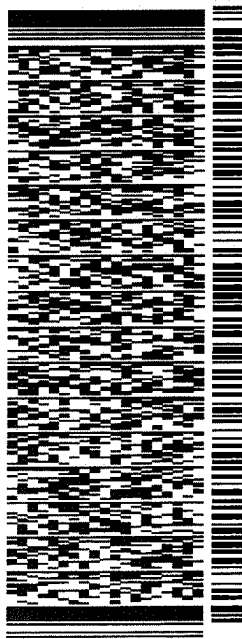
MIDLAND TX 79711

(432) 704-5440

REF:

INV:

DEPT:



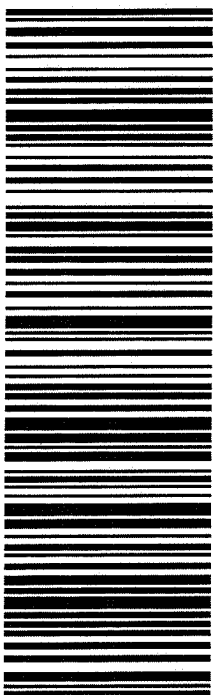
J151019010701uv

TRK# 7756 8226 1490

THU - 11 JUL 4:30P
 STANDARD OVERNIGHT

41 MAFA

79711
 TX-US LBB



565J2/A6F9/23AD

After printing this label:

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

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

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 07/11/2019 11:26:00 AM

Work Order #: 630531

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 07/11/2019

Checklist reviewed by:

Kelsey Brooks

Date: 07/11/2019

Analytical Report 630533

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 23 DTD 108 H

012919134

12-JUL-19

Collected By: Client



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

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

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

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



12-JUL-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **630533**

PLU 23 DTD 108 H

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) 630533. 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. 630533 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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

**Sample Cross Reference 630533****LT Environmental, Inc., Arvada, CO**

PLU 23 DTD 108 H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH31	S	07-09-19 09:30	4.5 ft	630533-001
PH31A	S	07-09-19 00:00	6.5 ft	630533-002
PH32	S	07-09-19 09:32	4.5 ft	630533-003
PH32A	S	07-09-19 09:10	6.5 ft	630533-004
PH33	S	07-09-19 09:35	4.5 ft	630533-005
PH33A	S	07-09-19 09:15	6.5 ft	630533-006
PH34	S	07-09-19 09:45	4.5 ft	630533-007
PH34A	S	07-09-19 09:20	6.5 ft	630533-008



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 23 DTD 108 H

Project ID: 012919134
Work Order Number(s): 630533

Report Date: 12-JUL-19
Date Received: 07/11/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3095232 TPH by SW8015 Mod

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

Samples affected are: 630533-002,630533-001.

Batch: LBA-3095233 BTEX by EPA 8021B

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



Certificate of Analysis Summary 630533

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108 H

Project Id: 012919134
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Thu Jul-11-19 11:26 am
Report Date: 12-JUL-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	630533-001	630533-002	630533-003	630533-004	630533-005	630533-006
	<i>Field Id:</i>	PH31	PH31A	PH32	PH32A	PH33	PH33A
	<i>Depth:</i>	4.5- ft	6.5- ft	4.5- ft	6.5- ft	4.5- ft	6.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Jul-09-19 09:30	Jul-09-19 00:00	Jul-09-19 09:32	Jul-09-19 09:10	Jul-09-19 09:35	Jul-09-19 09:15
BTEX by EPA 8021B	<i>Extracted:</i>	Jul-11-19 14:08	Jul-11-19 14:08	Jul-11-19 14:08	Jul-11-19 14:08	Jul-11-19 14:08	Jul-11-19 14:08
	<i>Analyzed:</i>	Jul-12-19 10:03	Jul-12-19 10:26	Jul-12-19 10:49	Jul-12-19 11:13	Jul-12-19 11:36	Jul-12-19 11:59
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
Toluene		<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
Ethylbenzene		<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
m,p-Xylenes		<0.00398 0.00398	<0.00402 0.00402	<0.00400 0.00400	<0.00400 0.00400	<0.00396 0.00396	<0.00401 0.00401
o-Xylene		<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
Total Xylenes		<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
Total BTEX		<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	Jul-11-19 13:00	Jul-11-19 13:00	Jul-11-19 13:00	Jul-11-19 13:00	Jul-11-19 13:00	Jul-11-19 13:00
	<i>Analyzed:</i>	Jul-11-19 15:06	Jul-11-19 15:28	Jul-11-19 15:35	Jul-11-19 15:43	Jul-11-19 15:50	Jul-11-19 15:57
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		25.5 4.97	52.5 5.00	958 5.04	130 5.01	137 4.98	12.2 5.05
TPH by SW8015 Mod	<i>Extracted:</i>	Jul-11-19 15:00	Jul-11-19 15:00	Jul-11-19 15:00	Jul-11-19 15:00	Jul-11-19 15:00	Jul-11-19 15:00
	<i>Analyzed:</i>	Jul-12-19 11:55	Jul-12-19 12:19	Jul-12-19 12:44	Jul-12-19 13:09	Jul-12-19 13:33	Jul-12-19 13:58
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total GRO-DRO		<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0

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

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

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 630533

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108 H

Project Id: 012919134
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Thu Jul-11-19 11:26 am
Report Date: 12-JUL-19
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	630533-007	630533-008				
	Field Id:	PH34	PH34A				
	Depth:	4.5- ft	6.5- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Jul-09-19 09:45	Jul-09-19 09:20				
BTEX by EPA 8021B	Extracted:	Jul-11-19 14:08	Jul-11-19 14:08				
	Analyzed:	Jul-12-19 12:22	Jul-12-19 12:45				
	Units/RL:	mg/kg RL	mg/kg RL				
	Benzene	<0.00200 0.00200	<0.00200 0.00200				
	Toluene	<0.00200 0.00200	<0.00200 0.00200				
	Ethylbenzene	<0.00200 0.00200	<0.00200 0.00200				
	m,p-Xylenes	<0.00399 0.00399	<0.00399 0.00399				
	o-Xylene	<0.00200 0.00200	<0.00200 0.00200				
	Total Xylenes	<0.00200 0.00200	<0.00200 0.00200				
	Total BTEX	<0.00200 0.00200	<0.00200 0.00200				
Chloride by EPA 300	Extracted:	Jul-11-19 13:00	Jul-11-19 13:00				
	Analyzed:	Jul-11-19 16:04	Jul-11-19 16:31				
	Units/RL:	mg/kg RL	mg/kg RL				
	Chloride	503 5.00	255 5.02				
TPH by SW8015 Mod	Extracted:	Jul-11-19 15:00	Jul-11-19 15:00				
	Analyzed:	Jul-12-19 14:47	Jul-12-19 15:12				
	Units/RL:	mg/kg RL	mg/kg RL				
	Gasoline Range Hydrocarbons (GRO)	<15.0 15.0	<15.0 15.0				
	Diesel Range Organics (DRO)	131 15.0	<15.0 15.0				
	Motor Oil Range Hydrocarbons (MRO)	<15.0 15.0	<15.0 15.0				
	Total TPH	131 15.0	<15.0 15.0				
	Total GRO-DRO	131 15.0	<15.0 15.0				

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

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

Jessica Kramer
Project Assistant



Certificate of Analytical Results 630533



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH31**
Lab Sample Id: 630533-001

Matrix: Soil
Date Collected: 07.09.19 09.30

Date Received: 07.11.19 11.26
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3095177

Date Prep: 07.11.19 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	25.5	4.97	mg/kg	07.11.19 15.06		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3095232

Date Prep: 07.11.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	07.12.19 11.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	07.12.19 11.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	07.12.19 11.55	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	07.12.19 11.55	U	1
Total GRO-DRO	PHC628	<14.9	14.9	mg/kg	07.12.19 11.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	07.12.19 11.55	
o-Terphenyl	84-15-1	64	%	70-135	07.12.19 11.55	**



Certificate of Analytical Results 630533



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH31**
Lab Sample Id: 630533-001

Matrix: Soil
Date Collected: 07.09.19 09.30

Date Received: 07.11.19 11.26
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: FOV

Seq Number: 3095233

Date Prep: 07.11.19 14.08

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.12.19 10.03	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.12.19 10.03	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.12.19 10.03	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.12.19 10.03	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.12.19 10.03	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.12.19 10.03	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.12.19 10.03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	95	%	70-130	07.12.19 10.03		
4-Bromofluorobenzene	460-00-4	107	%	70-130	07.12.19 10.03		



Certificate of Analytical Results 630533



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH31A**
Lab Sample Id: 630533-002

Matrix: Soil
Date Collected: 07.09.19 00.00

Date Received: 07.11.19 11.26
Sample Depth: 6.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3095177

Date Prep: 07.11.19 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	52.5	5.00	mg/kg	07.11.19 15.28		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3095232

Date Prep: 07.11.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.12.19 12.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.12.19 12.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.12.19 12.19	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.12.19 12.19	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.12.19 12.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	07.12.19 12.19	
o-Terphenyl	84-15-1	67	%	70-135	07.12.19 12.19	**



Certificate of Analytical Results 630533



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH31A**
Lab Sample Id: 630533-002

Matrix: Soil
Date Collected: 07.09.19 00.00

Date Received: 07.11.19 11.26
Sample Depth: 6.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: FOV

Seq Number: 3095233

Date Prep: 07.11.19 14.08

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.12.19 10.26	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.12.19 10.26	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.12.19 10.26	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.12.19 10.26	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.12.19 10.26	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.12.19 10.26	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.12.19 10.26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	07.12.19 10.26		
1,4-Difluorobenzene	540-36-3	93	%	70-130	07.12.19 10.26		



Certificate of Analytical Results 630533



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH32**
Lab Sample Id: 630533-003

Matrix: Soil
Date Collected: 07.09.19 09.32

Date Received: 07.11.19 11.26
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3095177

Date Prep: 07.11.19 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	958	5.04	mg/kg	07.11.19 15.35		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3095232

Date Prep: 07.11.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.12.19 12.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.12.19 12.44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.12.19 12.44	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.12.19 12.44	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.12.19 12.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	07.12.19 12.44	
o-Terphenyl	84-15-1	71	%	70-135	07.12.19 12.44	



Certificate of Analytical Results 630533



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH32**
Lab Sample Id: 630533-003

Matrix: Soil
Date Collected: 07.09.19 09.32

Date Received: 07.11.19 11.26
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: FOV

Seq Number: 3095233

Date Prep: 07.11.19 14.08

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	07.12.19 10.49	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.12.19 10.49	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.12.19 10.49	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.12.19 10.49	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.12.19 10.49	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.12.19 10.49	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.12.19 10.49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.12.19 10.49		
4-Bromofluorobenzene	460-00-4	107	%	70-130	07.12.19 10.49		



Certificate of Analytical Results 630533



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH32A**
Lab Sample Id: 630533-004

Matrix: Soil
Date Collected: 07.09.19 09.10

Date Received: 07.11.19 11.26
Sample Depth: 6.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3095177

Date Prep: 07.11.19 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	130	5.01	mg/kg	07.11.19 15.43		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3095232

Date Prep: 07.11.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.12.19 13.09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.12.19 13.09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.12.19 13.09	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.12.19 13.09	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.12.19 13.09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	07.12.19 13.09	
o-Terphenyl	84-15-1	76	%	70-135	07.12.19 13.09	



Certificate of Analytical Results 630533



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH32A**
Lab Sample Id: 630533-004

Matrix: Soil
Date Collected: 07.09.19 09.10

Date Received: 07.11.19 11.26
Sample Depth: 6.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: FOV

Seq Number: 3095233

Date Prep: 07.11.19 14.08

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	07.12.19 11.13	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.12.19 11.13	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.12.19 11.13	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.12.19 11.13	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.12.19 11.13	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.12.19 11.13	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.12.19 11.13	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	92	%	70-130	07.12.19 11.13		
4-Bromofluorobenzene	460-00-4	106	%	70-130	07.12.19 11.13		



Certificate of Analytical Results 630533



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH33**
Lab Sample Id: 630533-005

Matrix: Soil
Date Collected: 07.09.19 09.35

Date Received: 07.11.19 11.26
Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3095177

Date Prep: 07.11.19 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	137	4.98	mg/kg	07.11.19 15.50		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3095232

Date Prep: 07.11.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.12.19 13.33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.12.19 13.33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.12.19 13.33	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.12.19 13.33	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.12.19 13.33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	07.12.19 13.33	
o-Terphenyl	84-15-1	97	%	70-135	07.12.19 13.33	



Certificate of Analytical Results 630533



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH33**
Lab Sample Id: 630533-005

Matrix: Soil
Date Collected: 07.09.19 09.35

Date Received: 07.11.19 11.26
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALG

% Moisture:

Analyst: FOV

Date Prep: 07.11.19 14.08

Basis: Wet Weight

Seq Number: 3095233

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.12.19 11.36	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.12.19 11.36	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.12.19 11.36	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	07.12.19 11.36	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.12.19 11.36	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.12.19 11.36	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.12.19 11.36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	93	%	70-130	07.12.19 11.36		
4-Bromofluorobenzene	460-00-4	107	%	70-130	07.12.19 11.36		



Certificate of Analytical Results 630533



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH33A**
Lab Sample Id: 630533-006

Matrix: Soil
Date Collected: 07.09.19 09.15

Date Received: 07.11.19 11.26
Sample Depth: 6.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3095177

Date Prep: 07.11.19 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.2	5.05	mg/kg	07.11.19 15.57		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3095232

Date Prep: 07.11.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.12.19 13.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.12.19 13.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.12.19 13.58	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.12.19 13.58	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.12.19 13.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	07.12.19 13.58	
o-Terphenyl	84-15-1	89	%	70-135	07.12.19 13.58	



Certificate of Analytical Results 630533



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH33A**
Lab Sample Id: 630533-006

Matrix: Soil
Date Collected: 07.09.19 09.15

Date Received: 07.11.19 11.26
Sample Depth: 6.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: FOV

Seq Number: 3095233

Date Prep: 07.11.19 14.08

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	07.12.19 11.59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.12.19 11.59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.12.19 11.59	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.12.19 11.59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.12.19 11.59	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.12.19 11.59	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.12.19 11.59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	93	%	70-130	07.12.19 11.59		
4-Bromofluorobenzene	460-00-4	108	%	70-130	07.12.19 11.59		



Certificate of Analytical Results 630533

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH34**
 Lab Sample Id: 630533-007

Matrix: Soil
 Date Collected: 07.09.19 09.45

Date Received: 07.11.19 11.26
 Sample Depth: 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3095177

Date Prep: 07.11.19 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	503	5.00	mg/kg	07.11.19 16.04		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3095232

Date Prep: 07.11.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.12.19 14.47	U	1
Diesel Range Organics (DRO)	C10C28DRO	131	15.0	mg/kg	07.12.19 14.47		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.12.19 14.47	U	1
Total TPH	PHC635	131	15.0	mg/kg	07.12.19 14.47		1
Total GRO-DRO	PHC628	131	15.0	mg/kg	07.12.19 14.47		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	07.12.19 14.47	
o-Terphenyl	84-15-1	70	%	70-135	07.12.19 14.47	



Certificate of Analytical Results 630533



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH34**
Lab Sample Id: 630533-007

Matrix: Soil
Date Collected: 07.09.19 09.45

Date Received: 07.11.19 11.26
Sample Depth: 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: FOV

Seq Number: 3095233

Date Prep: 07.11.19 14.08

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	07.12.19 12.22	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.12.19 12.22	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.12.19 12.22	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.12.19 12.22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.12.19 12.22	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.12.19 12.22	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.12.19 12.22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	87	%	70-130	07.12.19 12.22		
4-Bromofluorobenzene	460-00-4	110	%	70-130	07.12.19 12.22		



Certificate of Analytical Results 630533



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH34A**
Lab Sample Id: 630533-008

Matrix: Soil
Date Collected: 07.09.19 09.20

Date Received: 07.11.19 11.26
Sample Depth: 6.5 ft

Analytical Method: Chloride by EPA 300

Tech: CHE

Analyst: CHE

Seq Number: 3095177

Date Prep: 07.11.19 13.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	255	5.02	mg/kg	07.11.19 16.31		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3095232

Date Prep: 07.11.19 15.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.12.19 15.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.12.19 15.12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.12.19 15.12	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.12.19 15.12	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.12.19 15.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	07.12.19 15.12	
o-Terphenyl	84-15-1	89	%	70-135	07.12.19 15.12	



Certificate of Analytical Results 630533



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108 H

Sample Id: **PH34A**
Lab Sample Id: 630533-008

Matrix: Soil
Date Collected: 07.09.19 09.20

Date Received: 07.11.19 11.26
Sample Depth: 6.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: ALG

Analyst: FOV

Seq Number: 3095233

Date Prep: 07.11.19 14.08

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	07.12.19 12.45	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.12.19 12.45	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.12.19 12.45	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.12.19 12.45	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.12.19 12.45	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.12.19 12.45	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.12.19 12.45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	108	%	70-130	07.12.19 12.45		
1,4-Difluorobenzene	540-36-3	92	%	70-130	07.12.19 12.45		



Flagging Criteria



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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU 23 DTD 108 H

Analytical Method: Chloride by EPA 300

Seq Number: 3095177

MB Sample Id: 7681833-1-BLK

Matrix: Solid

LCS Sample Id: 7681833-1-BKS

Prep Method: E300P

Date Prep: 07.11.19

LCSD Sample Id: 7681833-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	243	97	244	98	90-110	0	20	mg/kg	07.11.19 14:08	

Analytical Method: Chloride by EPA 300

Seq Number: 3095177

Parent Sample Id: 630531-001

Matrix: Soil

MS Sample Id: 630531-001 S

Prep Method: E300P

Date Prep: 07.11.19

MSD Sample Id: 630531-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	107	251	359	100	359	100	90-110	0	20	mg/kg	07.11.19 14:30	

Analytical Method: Chloride by EPA 300

Seq Number: 3095177

Parent Sample Id: 630533-007

Matrix: Soil

MS Sample Id: 630533-007 S

Prep Method: E300P

Date Prep: 07.11.19

MSD Sample Id: 630533-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	503	250	736	93	735	93	90-110	0	20	mg/kg	07.11.19 16:12	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3095232

MB Sample Id: 7681941-1-BLK

Matrix: Solid

LCS Sample Id: 7681941-1-BKS

Prep Method: TX1005P

Date Prep: 07.11.19

LCSD Sample Id: 7681941-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1090	109	1040	104	70-135	5	20	mg/kg	07.12.19 08:36	
Diesel Range Organics (DRO)	<8.13	1000	1060	106	1080	108	70-135	2	20	mg/kg	07.12.19 08:36	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		92		92		70-135	%	07.12.19 08:36
o-Terphenyl	71		78		87		70-135	%	07.12.19 08:36

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

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

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

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



LT Environmental, Inc.

PLU 23 DTD 108 H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3095232

Parent Sample Id: 630531-001

Matrix: Soil

MS Sample Id: 630531-001 S

Prep Method: TX1005P

Date Prep: 07.11.19

MSD Sample Id: 630531-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	13.4	999	988	98	1030	102	70-135	4	20	mg/kg	07.12.19 09:51	
Diesel Range Organics (DRO)	10.9	999	1050	104	1080	107	70-135	3	20	mg/kg	07.12.19 09:51	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	89		94		70-135	%	07.12.19 09:51
o-Terphenyl	91		82		70-135	%	07.12.19 09:51

Analytical Method: BTEX by EPA 8021B

Seq Number: 3095233

MB Sample Id: 7681851-1-BLK

Matrix: Solid

LCS Sample Id: 7681851-1-BKS

Prep Method: SW5030B

Date Prep: 07.11.19

LCSD Sample Id: 7681851-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0778	78	0.0811	81	70-130	4	35	mg/kg	07.12.19 07:37	
Toluene	0.000690	0.100	0.0975	98	0.0979	98	70-130	0	35	mg/kg	07.12.19 07:37	
Ethylbenzene	<0.00200	0.100	0.111	111	0.110	110	70-130	1	35	mg/kg	07.12.19 07:37	
m,p-Xylenes	<0.00101	0.200	0.220	110	0.217	109	70-130	1	35	mg/kg	07.12.19 07:37	
o-Xylene	<0.00200	0.100	0.104	104	0.103	103	70-130	1	35	mg/kg	07.12.19 07:37	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	87		85		88		70-130	%	07.12.19 07:37
4-Bromofluorobenzene	104		107		106		70-130	%	07.12.19 07:37

Analytical Method: BTEX by EPA 8021B

Seq Number: 3095233

Parent Sample Id: 630533-001

Matrix: Soil

MS Sample Id: 630533-001 S

Prep Method: SW5030B

Date Prep: 07.11.19

MSD Sample Id: 630533-001 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	0.100	0.0738	74	0.0756	75	70-130	2	35	mg/kg	07.12.19 08:24	
Toluene	<0.00201	0.100	0.0841	84	0.0849	84	70-130	1	35	mg/kg	07.12.19 08:24	
Ethylbenzene	<0.00201	0.100	0.0808	81	0.0808	80	70-130	0	35	mg/kg	07.12.19 08:24	
m,p-Xylenes	<0.00402	0.201	0.149	74	0.150	74	70-130	1	35	mg/kg	07.12.19 08:24	
o-Xylene	<0.00201	0.100	0.0857	86	0.0882	87	70-130	3	35	mg/kg	07.12.19 08:24	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	92		92		70-130	%	07.12.19 08:24
4-Bromofluorobenzene	108		110		70-130	%	07.12.19 08:24

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



Chain of Custody

Work Order No:

1030533

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 508-3334
 Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Crashad, NM (432) 704-5440
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

www.xenco.com

Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littlell
Company Name:	LT Environmental	Company Name:	KTB
Address:	3300 North A Street	Address:	3104 E. Greene Street
City, State ZIP:	Midland TX 79705	City, State ZIP:	Crashad NM 88220
Phone:	432 330 3849	Email:	mlk@ltenv.com

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

Project Name:	PU 330TD 1084	Turn Around	☐
Project Number:	012919134	Routine	☐
Project Location:	Eddy County	Rush:	3 days
Sampler's Name:	Anna Byers	Due Date:	
PO #:	285-4830	Quote #:	

SAMPLE RECEIPT		Temp Blank:	Yes ☒ No ☐	Wet Ice:	Yes ☐ No ☒
Temperature (°C):		Received In tact:	Yes ☒ No ☐	Thermometer ID:	
Cooler Custody Seals:		Yes ☒ No ☐	Correction Factor:		-0.2
Sample Custody Seals:		Yes ☒ No ☐	Total Containers:		6

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Analysis Request	Preservative Codes	Sample Comments
PH31		S	7/9/19	0930	4.5'	1	TPH (EPA 8015)		
PH31A		S		0900	6.5'	1	BTEX (EPA 8021)		
PH32		S		0932	4.5'	1	EPA Chloride (300)		
PH32A		S		0910	6.5'	1			
PH33		S		0935	4.5'	1			
PH33A		S		0915	6.5'	1			
PH34		S		0945	4.5'	1			
PH34A		S		0920	6.5'	1			

Total 200.7 / 6010 200.8 / 6020:

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

8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn
 TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U
 1631 / 245.1 / 7470 / 7471 : Hg

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	hmm	7/10/2019 11:37 AM	Anna Byers	hmm	7/10/19 1202
	hmm	7/10/19 1400		hmm	7/10/19 1220

ORIGIN ID:CAOA (575) 988-3199
ELIZABETH MCCLELLAN

1089 N CANAL

CARLSBAD, NM 88220
UNITED STATES US

SHIP DATE: 10 JUL 19
ACTWGT: 38.00 LB
CAD: 7354048/NET4100
BILL SENDER

TO LAB RECEIVING

XENCO MIDLAND

3600 S. COUNTY RD. 1276

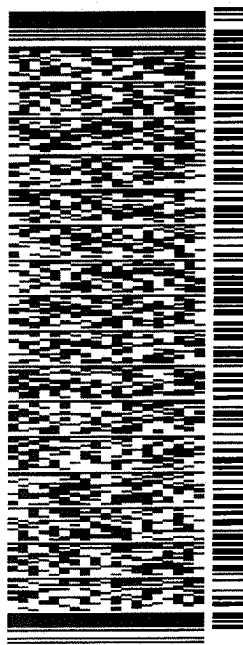
MIDLAND TX 79711

(432) 704-5440

REF:

PO:

DEPT:



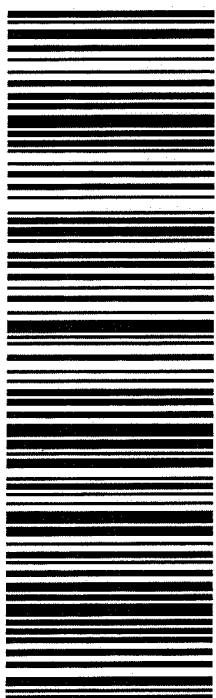
THU - 11 JUL 4:30P

STANDARD OVERNIGHT

TRK# 7756 8226 1490
0201

41 MAFA

79711
TX-US LBB



565J2/A6F9/23AD

After printing this label:

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3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 07/11/2019 11:26:00 AM

Work Order #: 630533

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Brianna Teel

Date: 07/11/2019

Checklist reviewed by:

Kelsey Brooks

Date: 07/11/2019

Analytical Report 632928

for
LT Environmental, Inc.

Project Manager: Dan Moir

PLU 23 DTD 108H

012919134

08-AUG-19

Collected By: Client



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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-19-29), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142), North Carolina (681)

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

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



08-AUG-19

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **632928**

PLU 23 DTD 108H

Project Address: Rural 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) 632928. 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. 632928 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

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

Jessica Kramer

Project Assistant

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

Certified and approved by numerous States and Agencies.

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

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



Sample Cross Reference 632928

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS15A	S	08-01-19 09:40	5 - 7.5 ft	632928-001
FS16A	S	08-01-19 09:45	5 - 7.5 ft	632928-002
FS19A	S	08-01-19 10:00	5 - 6 ft	632928-003
SW07	S	08-01-19 09:25	0.5 - 4.5 ft	632928-004
SW08	S	08-01-19 10:40	0.5 - 8 ft	632928-005
SW09	S	08-01-19 13:30	0.5 - 8 ft	632928-006
SW10	S	08-01-19 13:45	0.5 - 8 ft	632928-007
FS23	S	08-01-19 13:15	8 ft	632928-008
FS24	S	08-01-19 14:00	8 ft	632928-009
FS25	S	08-01-19 14:40	0.5 - 1.0 ft	632928-010
FS26	S	08-01-19 14:45	0.5 - 1.0 ft	632928-011
FS27	S	08-01-19 14:50	0.5 - 1.0 ft	632928-012
FS28	S	08-01-19 14:55	0.5 - 1.0 ft	632928-013
FS29	S	08-01-19 15:00	0.5 - 1.0 ft	632928-014



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: PLU 23 DTD 108H

Project ID: 012919134
Work Order Number(s): 632928

Report Date: 08-AUG-19
Date Received: 08/03/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3097728 BTEX by EPA 8021B

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

Batch: LBA-3097826 BTEX by EPA 8021B

Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected.

Samples affected are: 632928-005.

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



Certificate of Analysis Summary 632928

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108H

Project Id: 012919134
Contact: Dan Moir
Project Location: Rural Eddy County

Date Received in Lab: Sat Aug-03-19 07:30 am
Report Date: 08-AUG-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	632928-001	632928-002	632928-003	632928-004	632928-005	632928-006
	<i>Field Id:</i>	FS15A	FS16A	FS19A	SW07	SW08	SW09
	<i>Depth:</i>	5-7.5 ft	5-7.5 ft	5-6 ft	0.5-4.5 ft	0.5-8 ft	0.5-8 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Aug-01-19 09:40	Aug-01-19 09:45	Aug-01-19 10:00	Aug-01-19 09:25	Aug-01-19 10:40	Aug-01-19 13:30
BTEX by EPA 8021B	<i>Extracted:</i>	Aug-05-19 10:00	Aug-05-19 10:00	Aug-05-19 10:00	Aug-05-19 10:00	Aug-05-19 10:00	Aug-05-19 10:00
	<i>Analyzed:</i>	Aug-06-19 00:25	Aug-06-19 00:45	Aug-06-19 01:06	Aug-06-19 01:26	Aug-06-19 01:46	Aug-06-19 02:06
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	0.109 0.00199
m,p-Xylenes		<0.00399 0.00399	<0.00399 0.00399	<0.00398 0.00398	<0.00398 0.00398	0.00573 0.00398	<0.00398 0.00398
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	0.00598 0.00199	<0.00199 0.00199
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	0.0117 0.00199	<0.00199 0.00199
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199	0.0117 0.00199	0.109 0.00199
Chloride by EPA 300	<i>Extracted:</i>	Aug-05-19 17:30	Aug-05-19 17:30	Aug-05-19 17:30	Aug-05-19 17:30	Aug-05-19 17:30	Aug-05-19 17:30
	<i>Analyzed:</i>	Aug-06-19 00:16	Aug-06-19 00:22	Aug-06-19 00:27	Aug-06-19 00:43	Aug-06-19 00:49	Aug-06-19 00:54
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		74.7 5.04	25.3 5.04	59.4 4.98	535 4.99	847 5.04	176 5.03
TPH by SW8015 Mod	<i>Extracted:</i>	Aug-05-19 08:00	Aug-05-19 08:00	Aug-05-19 08:00	Aug-05-19 08:00	Aug-05-19 08:00	Aug-05-19 08:00
	<i>Analyzed:</i>	Aug-05-19 11:39	Aug-05-19 12:38	Aug-05-19 12:58	Aug-05-19 13:18	Aug-05-19 13:38	Aug-05-19 13:59
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	164 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	43.7 15.0	2030 15.0	<15.0 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	101 15.0	<15.0 15.0
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	43.7 15.0	2300 15.0	<15.0 15.0
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<15.0 15.0	43.7 15.0	2190 15.0	<15.0 15.0

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Jessica Kramer
Project Assistant



Certificate of Analysis Summary 632928

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108H

Project Id: 012919134
Contact: Dan Moir
Project Location: Rural Eddy County

Date Received in Lab: Sat Aug-03-19 07:30 am
Report Date: 08-AUG-19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	632928-007	632928-008	632928-009	632928-010	632928-011	632928-012
	<i>Field Id:</i>	SW10	FS23	FS24	FS25	FS26	FS27
	<i>Depth:</i>	0.5-8 ft	8- ft	8- ft	0.5-1.0 ft	0.5-1.0 ft	0.5-1.0 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	Aug-01-19 13:45	Aug-01-19 13:15	Aug-01-19 14:00	Aug-01-19 14:40	Aug-01-19 14:45	Aug-01-19 14:50
BTEX by EPA 8021B	<i>Extracted:</i>	Aug-05-19 10:00	Aug-05-19 10:00	Aug-05-19 10:30	Aug-05-19 10:30	Aug-05-19 10:30	Aug-05-19 10:30
	<i>Analyzed:</i>	Aug-06-19 02:26	Aug-06-19 02:46	Aug-06-19 18:07	Aug-06-19 18:27	Aug-06-19 18:48	Aug-06-19 19:08
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Toluene		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Ethylbenzene		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
m,p-Xylenes		<0.00398 0.00398	<0.00398 0.00398	<0.00398 0.00398	<0.00398 0.00398	<0.00400 0.00400	<0.00397 0.00397
o-Xylene		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Total Xylenes		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Total BTEX		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198
Chloride by EPA 300	<i>Extracted:</i>	Aug-05-19 17:30	Aug-05-19 17:30	Aug-05-19 17:30	Aug-05-19 17:30	Aug-05-19 17:30	Aug-05-19 17:30
	<i>Analyzed:</i>	Aug-06-19 01:00	Aug-06-19 01:05	Aug-06-19 01:10	Aug-06-19 01:27	Aug-06-19 01:32	Aug-06-19 01:49
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		26.7 4.98	26.0 5.00	27.5 4.99	251 4.97	275 5.02	260 4.98
TPH by SW8015 Mod	<i>Extracted:</i>	Aug-05-19 08:00	Aug-05-19 08:00	Aug-05-19 08:00	Aug-05-19 08:00	Aug-05-19 08:00	Aug-05-19 08:00
	<i>Analyzed:</i>	Aug-05-19 14:19	Aug-05-19 14:39	Aug-05-19 14:59	Aug-05-19 15:19	Aug-05-19 16:12	Aug-05-19 18:07
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	101 14.9	99.4 15.0	91.5 15.0
Motor Oil Range Hydrocarbons (MRO)		<15.0 15.0	<15.0 15.0	<15.0 15.0	<14.9 14.9	<15.0 15.0	<15.0 15.0
Total TPH		<15.0 15.0	<15.0 15.0	<15.0 15.0	101 14.9	99.4 15.0	91.5 15.0
Total GRO-DRO		<15.0 15.0	<15.0 15.0	<15.0 15.0	101 14.9	99.4 15.0	91.5 15.0

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Jessica Kramer
Project Assistant



Certificate of Analysis Summary 632928

LT Environmental, Inc., Arvada, CO

Project Name: PLU 23 DTD 108H

Project Id: 012919134
Contact: Dan Moir
Project Location: Rural Eddy County

Date Received in Lab: Sat Aug-03-19 07:30 am
Report Date: 08-AUG-19
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	632928-013	632928-014				
	Field Id:	FS28	FS29				
	Depth:	0.5-1.0 ft	0.5-1.0 ft				
	Matrix:	SOIL	SOIL				
	Sampled:	Aug-01-19 14:55	Aug-01-19 15:00				
BTEX by EPA 8021B	Extracted:	Aug-05-19 10:30	Aug-05-19 10:30				
	Analyzed:	Aug-06-19 19:28	Aug-06-19 19:48				
	Units/RL:	mg/kg RL	mg/kg RL				
	Benzene	<0.00199 0.00199	<0.00199 0.00199				
	Toluene	<0.00199 0.00199	<0.00199 0.00199				
	Ethylbenzene	<0.00199 0.00199	<0.00199 0.00199				
	m,p-Xylenes	<0.00398 0.00398	<0.00398 0.00398				
	o-Xylene	<0.00199 0.00199	<0.00199 0.00199				
	Total Xylenes	<0.00199 0.00199	<0.00199 0.00199				
	Total BTEX	<0.00199 0.00199	<0.00199 0.00199				
Chloride by EPA 300	Extracted:	Aug-05-19 17:30	Aug-05-19 17:30				
	Analyzed:	Aug-06-19 01:54	Aug-06-19 01:59				
	Units/RL:	mg/kg RL	mg/kg RL				
	Chloride	231 5.04	231 5.01				
TPH by SW8015 Mod	Extracted:	Aug-05-19 08:00	Aug-05-19 08:00				
	Analyzed:	Aug-05-19 18:42	Aug-05-19 19:01				
	Units/RL:	mg/kg RL	mg/kg RL				
	Gasoline Range Hydrocarbons (GRO)	<15.0 15.0	<15.0 15.0				
	Diesel Range Organics (DRO)	99.7 15.0	114 15.0				
	Motor Oil Range Hydrocarbons (MRO)	<15.0 15.0	<15.0 15.0				
	Total TPH	99.7 15.0	114 15.0				
	Total GRO-DRO	99.7 15.0	114 15.0				

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Version: 1.0%

Jessica Kramer
Project Assistant



Certificate of Analytical Results 632928

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: FS15A	Matrix: Soil	Date Received: 08.03.19 07.30
Lab Sample Id: 632928-001	Date Collected: 08.01.19 09.40	Sample Depth: 5 - 7.5 ft
Analytical Method: Chloride by EPA 300		Prep Method: E300P
Tech: SPC		% Moisture:
Analyst: SPC	Date Prep: 08.05.19 17.30	Basis: Wet Weight
Seq Number: 3097576		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	74.7	5.04	mg/kg	08.06.19 00.16		1

Analytical Method: TPH by SW8015 Mod		Prep Method: TX1005P
Tech: DVM		% Moisture:
Analyst: ARM	Date Prep: 08.05.19 08.00	Basis: Wet Weight
Seq Number: 3097583		

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.05.19 11.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	08.05.19 11.39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	08.05.19 11.39	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	08.05.19 11.39	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	08.05.19 11.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	08.05.19 11.39	
o-Terphenyl	84-15-1	83	%	70-135	08.05.19 11.39	



Certificate of Analytical Results 632928



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS15A**
Lab Sample Id: 632928-001

Matrix: Soil
Date Collected: 08.01.19 09.40

Date Received: 08.03.19 07.30
Sample Depth: 5 - 7.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: ALG

Seq Number: 3097826

Date Prep: 08.05.19 10.00

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	08.06.19 00.25	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.06.19 00.25	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.06.19 00.25	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	08.06.19 00.25	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.06.19 00.25	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.06.19 00.25	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.06.19 00.25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	112	%	70-130	08.06.19 00.25		
1,4-Difluorobenzene	540-36-3	97	%	70-130	08.06.19 00.25		



Certificate of Analytical Results 632928



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS16A**
Lab Sample Id: 632928-002

Matrix: Soil
Date Collected: 08.01.19 09.45

Date Received: 08.03.19 07.30
Sample Depth: 5 - 7.5 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3097576

Date Prep: 08.05.19 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	25.3	5.04	mg/kg	08.06.19 00.22		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3097583

Date Prep: 08.05.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.05.19 12.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	08.05.19 12.38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	08.05.19 12.38	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	08.05.19 12.38	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	08.05.19 12.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	93	%	70-135	08.05.19 12.38	
o-Terphenyl	84-15-1	87	%	70-135	08.05.19 12.38	



Certificate of Analytical Results 632928



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS16A**
Lab Sample Id: 632928-002

Matrix: Soil
Date Collected: 08.01.19 09.45

Date Received: 08.03.19 07.30
Sample Depth: 5 - 7.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: ALG

Seq Number: 3097826

Date Prep: 08.05.19 10.00

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	08.06.19 00.45	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.06.19 00.45	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.06.19 00.45	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	08.06.19 00.45	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.06.19 00.45	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.06.19 00.45	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.06.19 00.45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	08.06.19 00.45		
4-Bromofluorobenzene	460-00-4	108	%	70-130	08.06.19 00.45		



Certificate of Analytical Results 632928



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS19A**
Lab Sample Id: 632928-003

Matrix: Soil
Date Collected: 08.01.19 10.00

Date Received: 08.03.19 07.30
Sample Depth: 5 - 6 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3097576

Date Prep: 08.05.19 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	59.4	4.98	mg/kg	08.06.19 00.27		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3097583

Date Prep: 08.05.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.05.19 12.58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	08.05.19 12.58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	08.05.19 12.58	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	08.05.19 12.58	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	08.05.19 12.58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	08.05.19 12.58	
o-Terphenyl	84-15-1	87	%	70-135	08.05.19 12.58	



Certificate of Analytical Results 632928



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS19A**
Lab Sample Id: 632928-003

Matrix: Soil
Date Collected: 08.01.19 10.00

Date Received: 08.03.19 07.30
Sample Depth: 5 - 6 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: ALG

Date Prep: 08.05.19 10.00

Basis: Wet Weight

Seq Number: 3097826

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.06.19 01.06	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.06.19 01.06	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.06.19 01.06	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.06.19 01.06	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.06.19 01.06	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.06.19 01.06	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.06.19 01.06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	08.06.19 01.06		
1,4-Difluorobenzene	540-36-3	103	%	70-130	08.06.19 01.06		



Certificate of Analytical Results 632928



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **SW07**
Lab Sample Id: 632928-004

Matrix: Soil
Date Collected: 08.01.19 09.25

Date Received: 08.03.19 07.30
Sample Depth: 0.5 - 4.5 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3097576

Date Prep: 08.05.19 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	535	4.99	mg/kg	08.06.19 00.43		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3097583

Date Prep: 08.05.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.05.19 13.18	U	1
Diesel Range Organics (DRO)	C10C28DRO	43.7	15.0	mg/kg	08.05.19 13.18		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	08.05.19 13.18	U	1
Total TPH	PHC635	43.7	15.0	mg/kg	08.05.19 13.18		1
Total GRO-DRO	PHC628	43.7	15.0	mg/kg	08.05.19 13.18		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	08.05.19 13.18	
o-Terphenyl	84-15-1	95	%	70-135	08.05.19 13.18	



Certificate of Analytical Results 632928

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **SW07**
 Lab Sample Id: 632928-004

Matrix: Soil
 Date Collected: 08.01.19 09.25

Date Received: 08.03.19 07.30
 Sample Depth: 0.5 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: ALG

Seq Number: 3097826

Date Prep: 08.05.19 10.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.06.19 01.26	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.06.19 01.26	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.06.19 01.26	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.06.19 01.26	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.06.19 01.26	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.06.19 01.26	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.06.19 01.26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	70-130	08.06.19 01.26		
1,4-Difluorobenzene	540-36-3	102	%	70-130	08.06.19 01.26		



Certificate of Analytical Results 632928



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **SW08**
Lab Sample Id: 632928-005

Matrix: Soil
Date Collected: 08.01.19 10.40

Date Received: 08.03.19 07.30
Sample Depth: 0.5 - 8 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3097576

Date Prep: 08.05.19 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	847	5.04	mg/kg	08.06.19 00.49		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3097583

Date Prep: 08.05.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	164	15.0	mg/kg	08.05.19 13.38		1
Diesel Range Organics (DRO)	C10C28DRO	2030	15.0	mg/kg	08.05.19 13.38		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	101	15.0	mg/kg	08.05.19 13.38		1
Total TPH	PHC635	2300	15.0	mg/kg	08.05.19 13.38		1
Total GRO-DRO	PHC628	2190	15.0	mg/kg	08.05.19 13.38		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	90	%	70-135	08.05.19 13.38	
o-Terphenyl	84-15-1	98	%	70-135	08.05.19 13.38	



Certificate of Analytical Results 632928



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **SW08**
Lab Sample Id: 632928-005

Matrix: Soil
Date Collected: 08.01.19 10.40

Date Received: 08.03.19 07.30
Sample Depth: 0.5 - 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: ALG

Seq Number: 3097826

Date Prep: 08.05.19 10.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.06.19 01.46	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.06.19 01.46	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.06.19 01.46	U	1
m,p-Xylenes	179601-23-1	0.00573	0.00398	mg/kg	08.06.19 01.46		1
o-Xylene	95-47-6	0.00598	0.00199	mg/kg	08.06.19 01.46		1
Total Xylenes	1330-20-7	0.0117	0.00199	mg/kg	08.06.19 01.46		1
Total BTEX		0.0117	0.00199	mg/kg	08.06.19 01.46		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	08.06.19 01.46		
4-Bromofluorobenzene	460-00-4	132	%	70-130	08.06.19 01.46	**	



Certificate of Analytical Results 632928



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **SW09**
Lab Sample Id: 632928-006

Matrix: Soil
Date Collected: 08.01.19 13.30

Date Received: 08.03.19 07.30
Sample Depth: 0.5 - 8 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3097576

Date Prep: 08.05.19 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	176	5.03	mg/kg	08.06.19 00.54		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3097583

Date Prep: 08.05.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.05.19 13.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	08.05.19 13.59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	08.05.19 13.59	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	08.05.19 13.59	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	08.05.19 13.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	86	%	70-135	08.05.19 13.59	
o-Terphenyl	84-15-1	83	%	70-135	08.05.19 13.59	



Certificate of Analytical Results 632928



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **SW09**
Lab Sample Id: 632928-006

Matrix: Soil
Date Collected: 08.01.19 13.30

Date Received: 08.03.19 07.30
Sample Depth: 0.5 - 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: ALG

Seq Number: 3097826

Date Prep: 08.05.19 10.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.06.19 02.06	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.06.19 02.06	U	1
Ethylbenzene	100-41-4	0.109	0.00199	mg/kg	08.06.19 02.06		1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.06.19 02.06	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.06.19 02.06	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.06.19 02.06	U	1
Total BTEX		0.109	0.00199	mg/kg	08.06.19 02.06		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	127	%	70-130	08.06.19 02.06		
1,4-Difluorobenzene	540-36-3	96	%	70-130	08.06.19 02.06		



Certificate of Analytical Results 632928



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **SW10**
Lab Sample Id: 632928-007

Matrix: Soil
Date Collected: 08.01.19 13.45

Date Received: 08.03.19 07.30
Sample Depth: 0.5 - 8 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3097576

Date Prep: 08.05.19 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	26.7	4.98	mg/kg	08.06.19 01.00		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3097583

Date Prep: 08.05.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.05.19 14.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	08.05.19 14.19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	08.05.19 14.19	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	08.05.19 14.19	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	08.05.19 14.19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	08.05.19 14.19	
o-Terphenyl	84-15-1	93	%	70-135	08.05.19 14.19	



Certificate of Analytical Results 632928



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **SW10**
Lab Sample Id: 632928-007

Matrix: Soil
Date Collected: 08.01.19 13.45

Date Received: 08.03.19 07.30
Sample Depth: 0.5 - 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: ALG

Seq Number: 3097826

Date Prep: 08.05.19 10.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.06.19 02.26	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.06.19 02.26	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.06.19 02.26	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.06.19 02.26	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.06.19 02.26	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.06.19 02.26	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.06.19 02.26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	115	%	70-130	08.06.19 02.26		
1,4-Difluorobenzene	540-36-3	108	%	70-130	08.06.19 02.26		



Certificate of Analytical Results 632928



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: FS23
Lab Sample Id: 632928-008

Matrix: Soil
Date Collected: 08.01.19 13.15

Date Received: 08.03.19 07.30
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3097576

Date Prep: 08.05.19 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	26.0	5.00	mg/kg	08.06.19 01.05		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3097583

Date Prep: 08.05.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.05.19 14.39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	08.05.19 14.39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	08.05.19 14.39	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	08.05.19 14.39	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	08.05.19 14.39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	08.05.19 14.39	
o-Terphenyl	84-15-1	84	%	70-135	08.05.19 14.39	



Certificate of Analytical Results 632928



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS23**
Lab Sample Id: 632928-008

Matrix: Soil
Date Collected: 08.01.19 13.15

Date Received: 08.03.19 07.30
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: ALG

Seq Number: 3097826

Date Prep: 08.05.19 10.00

Prep Method: SW5030B

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.06.19 02.46	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.06.19 02.46	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.06.19 02.46	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.06.19 02.46	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.06.19 02.46	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.06.19 02.46	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.06.19 02.46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	08.06.19 02.46		
4-Bromofluorobenzene	460-00-4	109	%	70-130	08.06.19 02.46		



Certificate of Analytical Results 632928

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: FS24
Lab Sample Id: 632928-009

Matrix: Soil
Date Collected: 08.01.19 14.00

Date Received: 08.03.19 07.30
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3097576

Date Prep: 08.05.19 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	27.5	4.99	mg/kg	08.06.19 01.10		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3097583

Date Prep: 08.05.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.05.19 14.59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	08.05.19 14.59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	08.05.19 14.59	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	08.05.19 14.59	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	08.05.19 14.59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	08.05.19 14.59	
o-Terphenyl	84-15-1	85	%	70-135	08.05.19 14.59	



Certificate of Analytical Results 632928

LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS24**
 Lab Sample Id: 632928-009

Matrix: Soil
 Date Collected: 08.01.19 14.00

Date Received: 08.03.19 07.30
 Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: ALG

Date Prep: 08.05.19 10.30

Basis: Wet Weight

Seq Number: 3097728

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.06.19 18.07	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.06.19 18.07	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.06.19 18.07	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.06.19 18.07	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.06.19 18.07	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.06.19 18.07	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.06.19 18.07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	70-130	08.06.19 18.07		
1,4-Difluorobenzene	540-36-3	100	%	70-130	08.06.19 18.07		



Certificate of Analytical Results 632928



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: FS25
Lab Sample Id: 632928-010

Matrix: Soil
Date Collected: 08.01.19 14.40

Date Received: 08.03.19 07.30
Sample Depth: 0.5 - 1.0 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3097576

Date Prep: 08.05.19 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	251	4.97	mg/kg	08.06.19 01.27		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3097583

Date Prep: 08.05.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	08.05.19 15.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	101	14.9	mg/kg	08.05.19 15.19		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<14.9	14.9	mg/kg	08.05.19 15.19	U	1
Total TPH	PHC635	101	14.9	mg/kg	08.05.19 15.19		1
Total GRO-DRO	PHC628	101	14.9	mg/kg	08.05.19 15.19		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	08.05.19 15.19	
o-Terphenyl	84-15-1	93	%	70-135	08.05.19 15.19	



Certificate of Analytical Results 632928



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: FS25
Lab Sample Id: 632928-010

Matrix: Soil
Date Collected: 08.01.19 14.40

Date Received: 08.03.19 07.30
Sample Depth: 0.5 - 1.0 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: ALG

Date Prep: 08.05.19 10.30

Basis: Wet Weight

Seq Number: 3097728

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.06.19 18.27	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.06.19 18.27	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.06.19 18.27	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.06.19 18.27	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.06.19 18.27	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.06.19 18.27	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.06.19 18.27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	70-130	08.06.19 18.27		
1,4-Difluorobenzene	540-36-3	108	%	70-130	08.06.19 18.27		



Certificate of Analytical Results 632928



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS26**
Lab Sample Id: 632928-011

Matrix: Soil
Date Collected: 08.01.19 14.45

Date Received: 08.03.19 07.30
Sample Depth: 0.5 - 1.0 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3097576

Date Prep: 08.05.19 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	275	5.02	mg/kg	08.06.19 01.32		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3097583

Date Prep: 08.05.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.05.19 16.12	U	1
Diesel Range Organics (DRO)	C10C28DRO	99.4	15.0	mg/kg	08.05.19 16.12		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	08.05.19 16.12	U	1
Total TPH	PHC635	99.4	15.0	mg/kg	08.05.19 16.12		1
Total GRO-DRO	PHC628	99.4	15.0	mg/kg	08.05.19 16.12		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	08.05.19 16.12	
o-Terphenyl	84-15-1	85	%	70-135	08.05.19 16.12	



Certificate of Analytical Results 632928



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS26**
Lab Sample Id: 632928-011

Matrix: Soil
Date Collected: 08.01.19 14.45

Date Received: 08.03.19 07.30
Sample Depth: 0.5 - 1.0 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: ALG

Date Prep: 08.05.19 10.30

Basis: Wet Weight

Seq Number: 3097728

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	08.06.19 18.48	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	08.06.19 18.48	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	08.06.19 18.48	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	08.06.19 18.48	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	08.06.19 18.48	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	08.06.19 18.48	U	1
Total BTEX		<0.00200	0.00200	mg/kg	08.06.19 18.48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	107	%	70-130	08.06.19 18.48		
4-Bromofluorobenzene	460-00-4	111	%	70-130	08.06.19 18.48		



Certificate of Analytical Results 632928



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: FS27
Lab Sample Id: 632928-012

Matrix: Soil
Date Collected: 08.01.19 14.50

Date Received: 08.03.19 07.30
Sample Depth: 0.5 - 1.0 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3097576

Date Prep: 08.05.19 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	260	4.98	mg/kg	08.06.19 01.49		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3097583

Date Prep: 08.05.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.05.19 18.07	U	1
Diesel Range Organics (DRO)	C10C28DRO	91.5	15.0	mg/kg	08.05.19 18.07		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	08.05.19 18.07	U	1
Total TPH	PHC635	91.5	15.0	mg/kg	08.05.19 18.07		1
Total GRO-DRO	PHC628	91.5	15.0	mg/kg	08.05.19 18.07		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	08.05.19 18.07	
o-Terphenyl	84-15-1	85	%	70-135	08.05.19 18.07	



Certificate of Analytical Results 632928



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: FS27
Lab Sample Id: 632928-012

Matrix: Soil
Date Collected: 08.01.19 14.50

Date Received: 08.03.19 07.30
Sample Depth: 0.5 - 1.0 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: ALG

Date Prep: 08.05.19 10.30

Basis: Wet Weight

Seq Number: 3097728

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	08.06.19 19.08	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	08.06.19 19.08	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	08.06.19 19.08	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	08.06.19 19.08	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	08.06.19 19.08	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	08.06.19 19.08	U	1
Total BTEX		<0.00198	0.00198	mg/kg	08.06.19 19.08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	108	%	70-130	08.06.19 19.08		
4-Bromofluorobenzene	460-00-4	113	%	70-130	08.06.19 19.08		



Certificate of Analytical Results 632928



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS28**
Lab Sample Id: 632928-013

Matrix: Soil
Date Collected: 08.01.19 14.55

Date Received: 08.03.19 07.30
Sample Depth: 0.5 - 1.0 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3097576

Date Prep: 08.05.19 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	231	5.04	mg/kg	08.06.19 01.54		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3097583

Date Prep: 08.05.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.05.19 18.42	U	1
Diesel Range Organics (DRO)	C10C28DRO	99.7	15.0	mg/kg	08.05.19 18.42		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	08.05.19 18.42	U	1
Total TPH	PHC635	99.7	15.0	mg/kg	08.05.19 18.42		1
Total GRO-DRO	PHC628	99.7	15.0	mg/kg	08.05.19 18.42		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	08.05.19 18.42	
o-Terphenyl	84-15-1	88	%	70-135	08.05.19 18.42	



Certificate of Analytical Results 632928



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS28**
Lab Sample Id: 632928-013

Matrix: Soil
Date Collected: 08.01.19 14.55

Date Received: 08.03.19 07.30
Sample Depth: 0.5 - 1.0 ft

Analytical Method: BTEX by EPA 8021B

Tech: KTL

Analyst: ALG

Seq Number: 3097728

Prep Method: SW5030B

% Moisture:

Date Prep: 08.05.19 10.30

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.06.19 19.28	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.06.19 19.28	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.06.19 19.28	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.06.19 19.28	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.06.19 19.28	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.06.19 19.28	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.06.19 19.28	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	08.06.19 19.28		
1,4-Difluorobenzene	540-36-3	108	%	70-130	08.06.19 19.28		



Certificate of Analytical Results 632928



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS29**
Lab Sample Id: 632928-014

Matrix: Soil
Date Collected: 08.01.19 15.00

Date Received: 08.03.19 07.30
Sample Depth: 0.5 - 1.0 ft

Analytical Method: Chloride by EPA 300

Tech: SPC

Analyst: SPC

Seq Number: 3097576

Date Prep: 08.05.19 17.30

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	231	5.01	mg/kg	08.06.19 01.59		1

Analytical Method: TPH by SW8015 Mod

Tech: DVM

Analyst: ARM

Seq Number: 3097583

Date Prep: 08.05.19 08.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	08.05.19 19.01	U	1
Diesel Range Organics (DRO)	C10C28DRO	114	15.0	mg/kg	08.05.19 19.01		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	08.05.19 19.01	U	1
Total TPH	PHC635	114	15.0	mg/kg	08.05.19 19.01		1
Total GRO-DRO	PHC628	114	15.0	mg/kg	08.05.19 19.01		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	08.05.19 19.01	
o-Terphenyl	84-15-1	89	%	70-135	08.05.19 19.01	



Certificate of Analytical Results 632928



LT Environmental, Inc., Arvada, CO

PLU 23 DTD 108H

Sample Id: **FS29**
Lab Sample Id: 632928-014

Matrix: Soil
Date Collected: 08.01.19 15.00

Date Received: 08.03.19 07.30
Sample Depth: 0.5 - 1.0 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: KTL

% Moisture:

Analyst: ALG

Date Prep: 08.05.19 10.30

Basis: Wet Weight

Seq Number: 3097728

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	08.06.19 19.48	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	08.06.19 19.48	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	08.06.19 19.48	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	08.06.19 19.48	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	08.06.19 19.48	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	08.06.19 19.48	U	1
Total BTEX		<0.00199	0.00199	mg/kg	08.06.19 19.48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	109	%	70-130	08.06.19 19.48		
4-Bromofluorobenzene	460-00-4	111	%	70-130	08.06.19 19.48		



Flagging Criteria



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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



LT Environmental, Inc.

PLU 23 DTD 108H

Analytical Method: Chloride by EPA 300

Seq Number: 3097576

MB Sample Id: 7683561-1-BLK

Matrix: Solid

LCS Sample Id: 7683561-1-BKS

Prep Method: E300P

Date Prep: 08.05.19

LCSD Sample Id: 7683561-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	264	106	265	106	90-110	0	20	mg/kg	08.05.19 23:44	

Analytical Method: Chloride by EPA 300

Seq Number: 3097576

Parent Sample Id: 632928-009

Matrix: Soil

MS Sample Id: 632928-009 S

Prep Method: E300P

Date Prep: 08.05.19

MSD Sample Id: 632928-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	27.5	250	286	103	287	104	90-110	0	20	mg/kg	08.06.19 01:16	

Analytical Method: Chloride by EPA 300

Seq Number: 3097576

Parent Sample Id: 632964-013

Matrix: Soil

MS Sample Id: 632964-013 S

Prep Method: E300P

Date Prep: 08.05.19

MSD Sample Id: 632964-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	122	248	373	101	372	101	90-110	0	20	mg/kg	08.06.19 00:00	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3097583

MB Sample Id: 7683526-1-BLK

Matrix: Solid

LCS Sample Id: 7683526-1-BKS

Prep Method: TX1005P

Date Prep: 08.05.19

LCSD Sample Id: 7683526-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	1000	100	1040	104	70-135	4	20	mg/kg	08.05.19 10:59	
Diesel Range Organics (DRO)	<8.13	1000	924	92	964	96	70-135	4	20	mg/kg	08.05.19 10:59	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	89		110		118		70-135	%	08.05.19 10:59
o-Terphenyl	87		94		99		70-135	%	08.05.19 10:59

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

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

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

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



LT Environmental, Inc.

PLU 23 DTD 108H

Analytical Method: TPH by SW8015 Mod

Seq Number: 3097583

Parent Sample Id: 632928-001

Matrix: Soil

MS Sample Id: 632928-001 S

Prep Method: TX1005P

Date Prep: 08.05.19

MSD Sample Id: 632928-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	11.7	997	934	93	972	96	70-135	4	20	mg/kg	08.05.19 11:58	
Diesel Range Organics (DRO)	<8.10	997	874	88	907	91	70-135	4	20	mg/kg	08.05.19 11:58	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		102		70-135	%	08.05.19 11:58
o-Terphenyl	82		86		70-135	%	08.05.19 11:58

Analytical Method: BTEX by EPA 8021B

Seq Number: 3097826

MB Sample Id: 7683505-1-BLK

Matrix: Solid

LCS Sample Id: 7683505-1-BKS

Prep Method: SW5030B

Date Prep: 08.05.19

LCSD Sample Id: 7683505-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.000480	0.100	0.108	108	0.103	103	70-130	5	35	mg/kg	08.05.19 22:26	
Toluene	0.000470	0.100	0.100	100	0.0947	95	70-130	5	35	mg/kg	08.05.19 22:26	
Ethylbenzene	<0.000565	0.100	0.101	101	0.0944	94	70-130	7	35	mg/kg	08.05.19 22:26	
m,p-Xylenes	<0.00101	0.200	0.202	101	0.189	95	70-130	7	35	mg/kg	08.05.19 22:26	
o-Xylene	0.000390	0.100	0.104	104	0.0981	98	70-130	6	35	mg/kg	08.05.19 22:26	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		100		102		70-130	%	08.05.19 22:26
4-Bromofluorobenzene	106		104		103		70-130	%	08.05.19 22:26

Analytical Method: BTEX by EPA 8021B

Seq Number: 3097728

MB Sample Id: 7683501-1-BLK

Matrix: Solid

LCS Sample Id: 7683501-1-BKS

Prep Method: SW5030B

Date Prep: 08.05.19

LCSD Sample Id: 7683501-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.000440	0.100	0.107	107	0.0946	95	70-130	12	35	mg/kg	08.06.19 11:03	
Toluene	<0.000456	0.100	0.0955	96	0.0848	85	70-130	12	35	mg/kg	08.06.19 11:03	
Ethylbenzene	<0.000565	0.100	0.0931	93	0.0836	84	70-130	11	35	mg/kg	08.06.19 11:03	
m,p-Xylenes	<0.00101	0.200	0.183	92	0.166	83	70-130	10	35	mg/kg	08.06.19 11:03	
o-Xylene	<0.000344	0.100	0.0959	96	0.0869	87	70-130	10	35	mg/kg	08.06.19 11:03	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		102		102		70-130	%	08.06.19 11:03
4-Bromofluorobenzene	103		104		99		70-130	%	08.06.19 11:03

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

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

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

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



LT Environmental, Inc.

PLU 23 DTD 108H

Analytical Method: BTEX by EPA 8021B

Seq Number: 3097826

Parent Sample Id: 632928-001

Matrix: Soil

MS Sample Id: 632928-001 S

Prep Method: SW5030B

Date Prep: 08.05.19

MSD Sample Id: 632928-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0883	89	0.0915	92	70-130	4	35	mg/kg	08.05.19 23:06	
Toluene	<0.00199	0.0996	0.0822	83	0.0856	86	70-130	4	35	mg/kg	08.05.19 23:06	
Ethylbenzene	<0.00199	0.0996	0.0821	82	0.0857	86	70-130	4	35	mg/kg	08.05.19 23:06	
m,p-Xylenes	<0.00101	0.199	0.165	83	0.172	86	70-130	4	35	mg/kg	08.05.19 23:06	
o-Xylene	<0.00199	0.0996	0.0858	86	0.0890	89	70-130	4	35	mg/kg	08.05.19 23:06	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		102		70-130	%	08.05.19 23:06
4-Bromofluorobenzene	105		106		70-130	%	08.05.19 23:06

Analytical Method: BTEX by EPA 8021B

Seq Number: 3097728

Parent Sample Id: 632819-001

Matrix: Soil

MS Sample Id: 632819-001 S

Prep Method: SW5030B

Date Prep: 08.05.19

MSD Sample Id: 632819-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0858	86	0.0919	92	70-130	7	35	mg/kg	08.06.19 11:43	
Toluene	<0.000455	0.0998	0.0757	76	0.0820	82	70-130	8	35	mg/kg	08.06.19 11:43	
Ethylbenzene	<0.00200	0.0998	0.0740	74	0.0802	81	70-130	8	35	mg/kg	08.06.19 11:43	
m,p-Xylenes	<0.00101	0.200	0.145	73	0.158	79	70-130	9	35	mg/kg	08.06.19 11:43	
o-Xylene	<0.00200	0.0998	0.0764	77	0.0842	85	70-130	10	35	mg/kg	08.06.19 11:43	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		106		70-130	%	08.06.19 11:43
4-Bromofluorobenzene	104		112		70-130	%	08.06.19 11:43

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

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

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

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



Chain of Custody

Work Order No: 632928

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0390 San Antonio, TX (210) 509-3334

Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Crasbad, NM (432) 704-5440
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-5800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 899-6701

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Page 1 of 2

Project Manager:	DAUMORE	Bill to: (if different)	Kyle Littrell
Company Name:	IT ENVIRONMENTAL	Company Name:	XTD
Address:	3300 North A St	Address:	3104 E. Greene St
City, State ZIP:	Midland TX 79705	City, State ZIP:	Carsbad NM 88220
Phone:	432 236 3849	Email:	abyers@itenv.com

Project Name:	PLU 23 DTD 108 H	Turn Around	
Project Number:	012919134	Routine	☐
Project Location:	Rural Eddy County	Rush:	2 day
Sample's Name:	MUNA BYERS	Due Date:	
PO #:	2RP-4870	Quote #:	

SAMPLE RECEIPT		Temp Blank:	Yes ☐ No ☒	Wet Ice:	Yes ☐ No ☒
Temperature (°C):	1.8/11.6	Thermometer ID			
Received Intact:	Yes ☒ No ☐	Correction Factor:	RB		
Cooler Custody Seals:	Yes ☐ No ☒	Total Containers:	-0.2		
Sample Custody Seals:	Yes ☐ No ☒				

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST	Preservative Codes	Sample Comments
FS16A		S	8/1/19	0940	5-7.5'	1	TPH (EPA 8015)	MeOH: Me	
FS16A		S		0945	5-7.5'	1	BTEX (EPA 8021)	None: NO	
FS16A		S		1000	5-6'	1	Chloride (EPA 8060)	HNO3: HN	
SW07		S		0925	0.5-4.5'	1		H2SO4: H2	
SW08		S		1040	0.5-8'	1		HCL: HL	
SW09		S		1330	0.5-8'	1		NaOH: Na	
SW10		S		1345	0.5-8'	1		Zn Acetate+ NaOH: Zn	
FS23		S		1315	8'	1		TAT starts the day received by the lab, if received by 4:00pm	
FS24		S		1400	8'	1			
FS25		S		1440	0.5-10'	1			

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	CELTIC	8/2/19 220	CELTIC	Fed Ex	8/2/19 1400
		8/5/19 08:00			8/5/19 0730

Revised Date 02/29/19 Rev: 2019.1



Chain of Custody

Work Order No: 632928

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

Midland, TX (432) 704-5440 EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Crashead, NM (432) 704-5440
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Page 2 of 2

Project Manager: DAN MOIR		Bill to: (if different) Kyle Littlell	
Company Name: LT ENVIRONMENTAL		Company Name: XTD	
Address: 3380 North A St		Address: 3104 E. Greene St	
City, State ZIP: Midland TX 79705		City, State ZIP: Carlsbad NM 88220	
Phone: 432 236 3849		Email: abyers@ken.com	

Project Name: PLU 23 DTD 1084	Turn Around	Pres. Code	ANALYSIS REQUEST				Preservative Codes
Project Number: 012919184	☐ Routine						MeOH: Me None: NO HNO3: HN H2SO4: H2 HCL: HL NaOH: Na Zn Acetate+ NaOH: Zn
Project Location: Rural Eddy County	Rush: 2 day						TAT starts the day received by the lab, if received by 4:00pm
Sampler's Name: Anna Byers	Due Date:						Sample Comments
PO #: 240-4870	Quote #:						

SAMPLE RECEIPT		Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	18.1/1.0	Thermometer ID:					
Received Inactive:	Yes	No			128		
Cooler Custody Seals:	Yes	No			128		
Sample Custody Seals:	Yes	No			0.2		
		Total Containers:					

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)
ES26		S	8/1/19	1445	0.5-1.0'				
ES27		S		1450	0.5-1.0'				
ES28		S		1455	0.5-1.0'				
ES29		S		1500	0.5-1.0'				

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
Anna Byers	[Signature]	8/1/19 12:20	[Signature]	Fea Zy	8/2/19 14:00
	[Signature]	8/5/19 08:00			8/5/19
					0730

Revised Date 02/26/19 Rev. 2019.1

8/2/2019

FedEx Ship Manager - Print Your Label(s)

ORIGIN:CAOA (281) 240-4200
 SAMPLE CUSTODY
 SAMPLE CUSTODY
 1089 N CANAL ST
 CARLSBAD, NM 88220
 UNITED STATES US

SHIP DATE: 02AUG19
 ACTWGT: 62.00 LB
 CAD: 114488676/MNET4160
 DIMS: 13x8x9 IN
 BILL SENDER

TO SAMPLE RECEIVING MIDLAND

FEDEx OFFICE PRINT & SHIP CENTER
 FEDEX OFFICE PRINT & SHIP CENTER
 200 W INTERSTATE 20

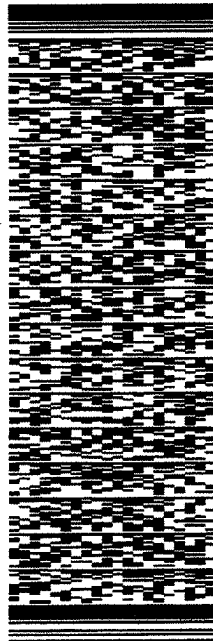
MIDLAND TX 79701

(432) 704-5440

REF:

PO:

DEPT:



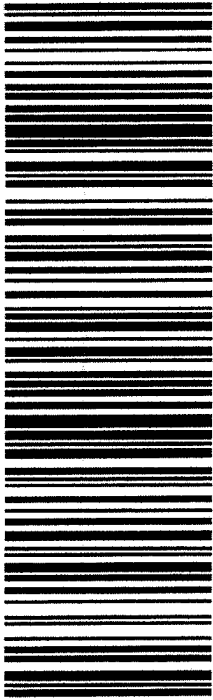
567J3/E9E7/05A2

TRK# 7759 0818 1661
 0201

SATURDAY HOLD
 PRIORITY OVERNIGHT

41 MAFA

HLD
 MAFKI
 LBB
 TX-US

**After printing this label:**

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

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

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 08/03/2019 07:30:00 AM

Work Order #: 632928

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	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:

Brianna Teel

Date: 08/05/2019

Checklist reviewed by:

Jessica Kramer

Date: 08/05/2019



LT Environmental, Inc.

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

November 1, 2019

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

**RE: Deferral Request
Poker Lake Unit 23 Dogtown Draw 108H Lease
Remediation Permit Number 2RP-4870
Eddy County, New Mexico**

Dear Mr. Billings:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following report detailing site assessment, soil sampling, and excavation activities at the Poker Lake Unit 23 Dogtown Draw 108H Lease (Site) in Unit A, Section 23, Township 24 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment, soil sampling, and excavation activities was to address impacts to soil after a release of oil based drilling mud at the Site. Based on the results of the soil sampling events, XTO is submitting this Deferral Request, describing remediation that has occurred and requesting deferral of final remediation.

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

RELEASE BACKGROUND

On June 22, 2018, the trip tank overflowed during drilling activities. Approximately 37 barrels (bbls) of oil based drilling mud were released onto the surface of the well pad. A vacuum truck recovered approximately 35.5 bbls of the released drilling mud. All released fluids were contained on the well pad. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on June 22, 2018, and was assigned Remediation Permit (RP) Number 2RP-4870 (Attachment 1).



Billings, B.
Page 2

SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the NMAC. Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest water well data. The nearest permitted water well with depth to water data is United States Geological Survey (USGS) well 321203103511801, located approximately 4,087 feet southwest of the Site. The water well has a depth to groundwater of approximately 423 feet bgs and a total depth of 474 feet bgs. Ground surface elevation at the water well location is 3,423 feet above mean sea level (AMSL), which is approximately 13 feet lower in elevation than the Site. The closest continuously flowing water or significant watercourse to the Site is an intermittent pond approximately 995 feet south of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is located in a low potential karst area.

CLOSURE CRITERIA

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

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

SITE ASSESSMENT, EXCAVATION, AND DELINEATION SOIL SAMPLING ACTIVITIES

During June and July 2019, LTE personnel was at the Site to oversee site assessment activities to delineate impacted soil. Potholes were advanced via track hoe at 34 locations within and around the release extent. Pothole locations were selected based on information provided on the initial Form C-141 and field observations. Potholes PH01 through PH34 were advanced to depths ranging from 4.5 feet to 19 feet bgs. Delineation soil samples were collected from each pothole at depths ranging from 0.5 feet to 19 feet bgs. Soil from the potholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for each pothole were logged on lithologic/soil sampling logs, which are included in Attachment 2. The pothole delineation soil sample locations are depicted on Figure 2.





Billings, B.
Page 3

During July and August 2019, LTE personnel was at the Site to oversee excavation of impacted soil as indicated by potholing, visual observations, and field screening results. To direct excavation activities, LTE screened soil for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively. Impacted soil was excavated to depths ranging from 0.5 feet to 8 feet bgs. Following removal of impacted soil, LTE collected 5-point composite soil samples every 200 square feet from the sidewalls and floor of the excavation. The 5-point composite samples were collected by depositing five aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples SW01 through SW10 were collected from the sidewalls of the excavation from depths ranging from 0.5 feet to 8 feet bgs. Composite soil samples FS01 through FS29, FS15A, FS16A, and FS19A were collected from the floor of the excavation from depths ranging from 0.5 feet to 8 feet bgs. Due to the shallow 0.5 feet to 1 foot depth in the northern portion of the excavation, floor samples FS25 through FS29 represent both the sidewalls and floor of the excavation. The excavation extent and excavation soil sample locations are depicted on Figure 3.

The delineation and excavation soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were shipped at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Xenco Laboratories (Xenco) in Midland, Texas, for analysis of BTEX following United States Environmental Protection Agency (USEPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following USEPA Method 8015M/D; and chloride following USEPA Method 300.0.

The excavation measured approximately 7,840 square feet in area with a depth of 0.5 feet to 8 feet bgs. A total of approximately 1,160 cubic yards of impacted soil were removed from the excavation. The impacted soil was transported and properly disposed of at the Lea Land Landfill located in Hobbs, New Mexico.

ANALYTICAL RESULTS

Laboratory analytical results for the delineation soil samples collected from potholes PH01 through PH22, PH24, PH25, PH27, and PH29 through PH34 indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical results for delineation soil samples PH23, PH26, and PH28 collected at depths of 0.5 feet to 1 foot bgs indicated that TPH and/or GRO/DRO concentrations exceeded the Closure Criteria. Subsequent delineation soil samples PH23A, PH26A, and PH28A collected at depths of 4.5 feet to 8 feet bgs were compliant with the Closure Criteria.

Impacted soil was excavated to the extent possible. Laboratory analytical results for excavation sidewall samples SW01 through SW04, SW06, SW07, SW09, and SW10, and excavation floor samples FS01 through FS14, FS17, FS18, and FS20 through FS29 indicated that BTEX, GRO/DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical



Billings, B.
Page 4

results indicated that GRO/DRO concentrations in excavation floor samples FS15, FS16, and FS19 initially exceeded the Closure Criteria. Additional soil was removed from the floor of the excavation, and subsequent floor samples FS15A, FS16A, and FS19A were compliant with the Closure Criteria. Laboratory analytical results indicated that GRO/DRO concentrations in excavation sidewall samples SW05 and SW08 exceeded the Closure Criteria. Additional soil was removed from the area around SW05 and subsequent sidewall sample SW10 was compliant with the Closure Criteria. Further excavation of impacted soil beyond sidewall sample SW08 was limited by the presence of an active wellhead. XTO safety policy restricts soil disturbing activities to a 10 foot radius of active wellheads. This XTO safety policy is established to protect workers and reduce the likelihood of compromising the foundation of the wellhead. This policy was enforced where impacted soil was identified within 10 feet of a wellhead in excavation sidewall sample SW08.

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

DEFERRAL REQUEST

A total of approximately 1,160 cubic yards of impacted soil were excavated from the Site; however, residual impacted soil was left in place for compliance with the XTO safety policy regarding earth moving activities within 10 feet of active wellheads. Impacted soil was excavated to the extent possible, and laboratory analytical results for excavation sidewall sample SW08 collected from the final excavation extent indicated that soil with GRO/DRO concentrations exceeding the Closure Criteria was left in place within 10 feet of an active wellhead. The impacted soil remaining in place in this area is delineated vertically and laterally by excavation soil samples SW06, SW09, FS15A, FS23, FS24 collected from the sidewalls and floor of the final excavation extent, and pothole samples PH01/PH01A/PH01B, PH02/PH02A, PH19/PH19A, PH26A, PH34/PH34A. An estimated 85 cubic yards of impacted soil remains in place, assuming a maximum 8 foot depth based on the excavation and delineation soil samples listed above collected from depths of 0.5 to 8 feet bgs, that were compliant with the Closure Criteria.

XTO requests to backfill the existing excavation and complete remediation during any future major construction/alteration or final plugging and abandonment, whichever occurs first. LTE and XTO do not believe deferment will result in imminent risk to human health, the environment, or groundwater. The majority of the released fluids were recovered during initial response activities and no saturated soil remains in-place.

XTO requests deferral of final remediation for RP Number 2RP-4870. Upon approval of this deferral request, XTO will backfill the excavation with material purchased locally and recontour the Site to match pre-existing site conditions. An updated NMOCD Form C-141 is included as Attachment 1.





Billings, B.
Page 5

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

Sincerely,

LT ENVIRONMENTAL, INC.

A handwritten signature in black ink that reads "Aimee Cole".

Aimee Cole
Project Environmental Scientist

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

Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Mike Bratcher, NMOCD
Bureau of Land Management

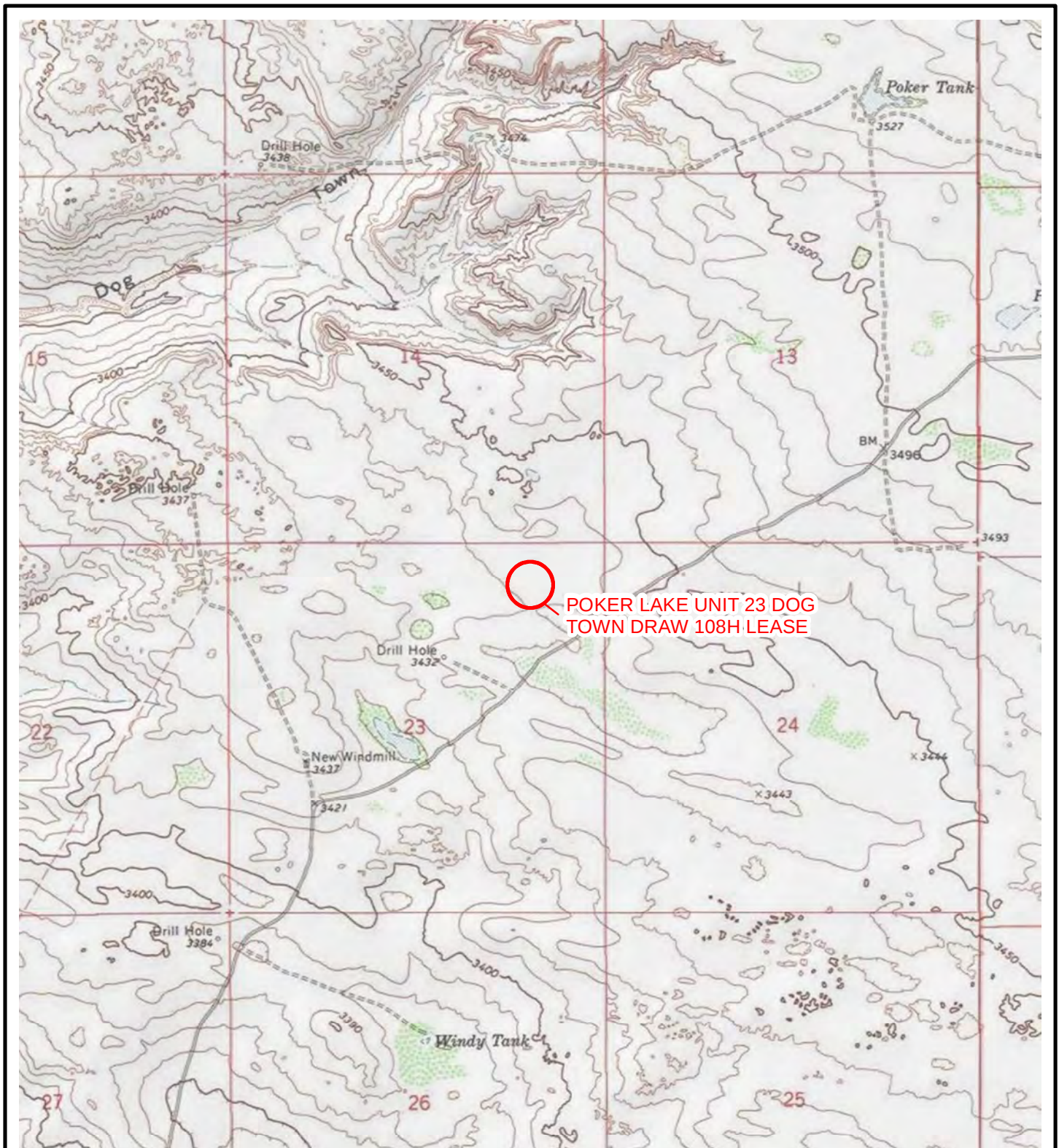
Attachments:

Figure 1 Site Location Map
Figure 2 Delineation Soil Sample Locations
Figure 3 Excavation Soil Sample Locations
Table 1 Soil Analytical Results
Attachment 1 Initial/Final NMOCD Form C-141 (2RP-4870)
Attachment 2 Lithologic / Soil Sample Logs
Attachment 3 Photographic Log
Attachment 4 Laboratory Analytical Reports



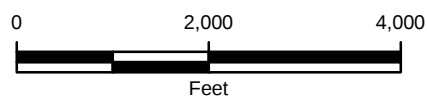
FIGURES



**LEGEND**

○ SITE LOCATION

IMAGE COURTESY OF ESRI/USGS

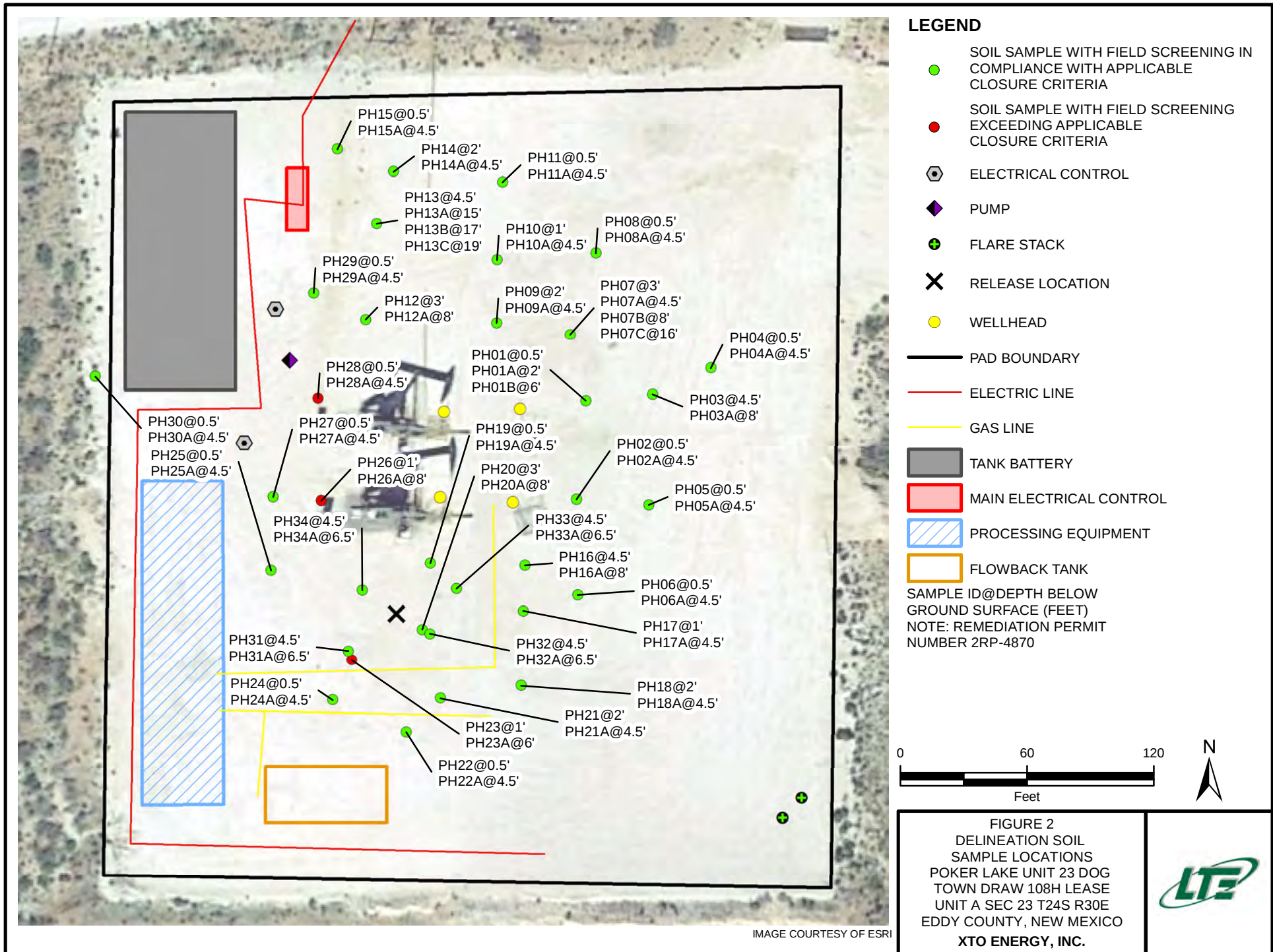


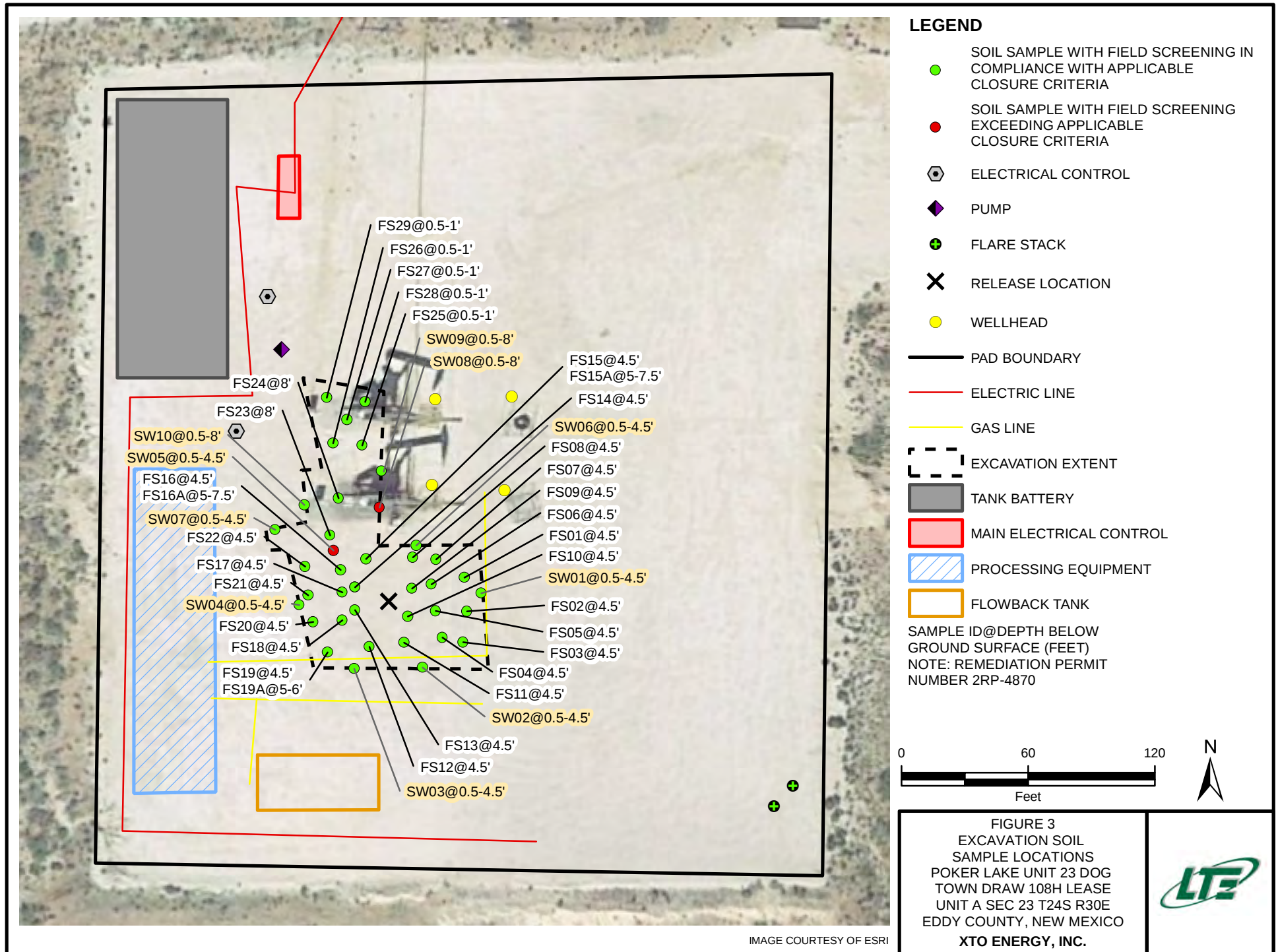
NOTE: REMEDIATION PERMIT
NUMBERS 2RP-4870

FIGURE 1
SITE LOCATION MAP
POKER LAKE UNIT 23 DOG TOWN DRAW 108H LEASE
UNIT A SEC 23 T24S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.



P:\XTO Energy\GIS\MXD\012919134_PLU 23 DOGTOWN DRAW 108H\012919134_FIG01_SL_4870.mxd





TABLES



TABLE 1
SOIL ANALYTICAL RESULTS

POKER LAKE UNIT 23 DOG TOWN DRAW 108H LEASE
REMEDATION PERMIT NUMBER 2RP-4870
EDDYCOUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
PH01	0.5	6/26/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	1,330
PH01A	2	6/26/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<14.9	22.1
PH01B	6	6/26/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	7.1
PH02	0.5	6/26/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	678
PH02A	4.5	6/27/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	6.2
PH03	4.5	6/26/2019	<0.00197	<0.00197	<0.00197	<0.00197	<0.00197	<15.0	<15.0	<15.0	<15.0	<15.0	210
PH03A	8	6/26/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<14.9	344
PH04	0.5	6/27/2019	<0.00203	<0.00203	<0.00203	<0.00203	<0.00203	<15.0	<15.0	<15.0	<15.0	<15.0	208
PH04A	4.5	6/27/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	9.5
PH05	0.5	6/27/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	92.6
PH05A	4.5	6/27/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	173
PH06	0.5	6/27/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	315
PH06A	4.5	6/27/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	107
PH07	3	6/27/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	2,760
PH07A	4.5	6/27/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	32.4	<15.0	32.4	32.4	2,160
PH07B	8	6/28/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	4,100
PH07C	16	6/28/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<14.9	98.2
PH08	0.5	6/28/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	128
PH08A	4.5	6/28/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	<5.00
PH09	2	6/28/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	3,340
PH09A	4.5	6/28/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	61.6
PH10	1	6/28/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	2,420
PH10A	4.5	6/28/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	76.7
PH11	0.5	6/28/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	<14.9	<14.9	<14.9	<14.9	53.8
PH11A	4.5	6/28/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	103

TABLE 1
SOIL ANALYTICAL RESULTS

POKER LAKE UNIT 23 DOG TOWN DRAW 108H LEASE
REMEDATION PERMIT NUMBER 2RP-4870
EDDYCOUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
PH12	3	6/28/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	654
PH12A	8	6/28/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	18.3
PH13	4.5	6/28/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	2,090
PH13A	15	6/28/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	1,940
PH13B	17	7/8/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	2,600
PH13C	19	7/8/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	1,120
PH14	2	7/1/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	815
PH14A	4.5	7/1/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	37.6
PH15	0.5	7/1/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	44.3
PH15A	4.5	7/1/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	8.7
PH16	4.5	7/1/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	<14.9	<14.9	<14.9	<14.9	477
PH16A	8	7/1/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	13.2
PH17	1	7/1/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	662
PH17A	4.5	7/1/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	361
PH18	2	7/1/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	512
PH18A	4.5	7/1/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	115
PH19	0.5	7/1/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	17.4	<15.0	17.4	17.4	142
PH19A	4.5	7/1/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	10.1
PH20	3	7/1/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	669
PH20A	8	7/1/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	12.7
PH21	2	7/2/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	348
PH21A	4.5	7/2/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	124
PH22	0.5	7/2/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	302
PH22A	4.5	7/2/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	27.8
PH23	1	7/2/2019	<0.00201	<0.00201	0.00533	0.0448	0.0501	259	6,980	171	7,240	7,410	246.0
PH23A	6	7/2/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	23.9

TABLE 1
SOIL ANALYTICAL RESULTS

POKER LAKE UNIT 23 DOG TOWN DRAW 108H LEASE
REMEDATION PERMIT NUMBER 2RP-4870
EDDYCOUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
PH24	0.5	7/2/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<4.96
PH24A	4.5	7/2/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	5.2
PH25	0.5	7/2/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	<4.99
PH25A	4.5	7/2/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	47.2
PH26	1	7/8/2019	<0.0402	<0.0402	0.228	1.75	1.98	872	17,200	596	18,100	18,700	3,390
PH26A	8	7/8/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	<5.05
PH27	0.5	7/8/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	20.5	<15.0	20.5	20.5	217
PH27A	4.5	7/8/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	33.1	<15.0	33.1	33.1	28.5
PH28	0.5	7/8/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	39.7	1,960	146	2,000	2,150	842
PH28A	4.5	7/8/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	43.8	<15.0	43.8	43.8	9.0
PH29	0.5	7/9/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<15.0	107
PH29A	4.5	7/9/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	30.5
PH30	0.5	7/9/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	60.8
PH30A	4.5	7/9/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	65.9
PH31	4.5	7/9/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<14.9	25.5
PH31A	6.5	7/9/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	52.5
PH32	4.5	7/9/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	958
PH32A	6.5	7/9/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	130
PH33	4.5	7/9/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	<15.0	<15.0	<15.0	<15.0	137
PH33A	6.5	7/9/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	12.2
PH34	4.5	7/9/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	131	<15.0	131	131	503
PH34A	6.5	7/9/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	255
SW01	0.5-4.5	7/3/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	239	53.2	239	292	194
SW02	0.5-4.5	7/8/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	24.5	<15.0	24.5	24.5	385
SW03	0.5-4.5	7/8/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	34.7	<14.9	34.7	34.7	1,060
SW04	0.5-4.5	7/8/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	29	<15.0	29	29	166
SW05	0.5-4.5	7/8/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	62.6	1,960	143	2,020	2,170	1,790

TABLE 1
SOIL ANALYTICAL RESULTS

POKER LAKE UNIT 23 DOG TOWN DRAW 108H LEASE
REMEDATION PERMIT NUMBER 2RP-4870
EDDYCOUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SW06	0.5-4.5	7/8/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	286	44.3	286	330	625
SW07	0.5-4.5	8/1/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	43.7	<15.0	43.7	43.7	535
SW08	0.5-8	8/1/2019	<0.00199	<0.00199	<0.00199	0.0117	0.0117	164.0	2,030	101	2,190	2,300	847
SW09	0.5-8	8/1/2019	<0.00199	<0.00199	0.109	<0.00199	0.109	<15.0	<15.0	<15.0	<15.0	<15.0	176
SW10	0.5-8	8/1/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	27
FS01	4.5	7/8/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	89.4
FS02	4.5	7/8/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	349
FS03	4.5	7/8/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	225	23.6	225	249	320
FS04	4.5	7/8/2019	<0.00201	<0.00201	<0.00201	0.0302	0.0302	<15.0	25.3	<15.0	25.3	25.3	249
FS05	4.5	7/8/2019	<0.00200	<0.00200	0.00501	<0.00200	0.00501	<15.0	90.9	16.8	90.9	108	832
FS06	4.5	7/8/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	670
FS07	4.5	7/8/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	238
FS08	4.5	7/8/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	<15.0	448
FS09	4.5	7/8/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	490
FS10	4.5	7/8/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	35.1	<15.0	35.1	35.1	427
FS11	4.5	7/8/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	29.0	<15.0	29.0	29.0	426
FS12	4.5	7/8/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	402
FS13	4.5	7/8/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<14.9	60.4
FS14	4.5	7/8/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	633
FS15	4.5	7/8/2019	<0.00198	<0.00198	<0.00198	0.0172	0.0172	26.1	1,070	32.6	1,100	1,130	160
FS15A	5-7.5	8/1/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	75
FS16	4.5	7/8/2019	<0.00199	<0.00199	<0.00199	0.00233	0.00233	31.3	1,070	23.5	1,100	1,120	188
FS16A	5-7.5	8/1/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<15.0	25
FS17	4.5	7/8/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	<14.9	<14.9	<14.9	<14.9	369
FS18	4.5	7/8/2019	<0.00200	<0.00200	<0.00200	0.0265	0.0265	20.0	732	19.4	752	771	234
FS19	4.5	7/8/2019	<0.00200	<0.00200	0.00374	0.0270	0.0307	79.0	1,770	33.2	1,850	1,880	187
FS19A	5-6	8/1/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	59

TABLE 1
SOIL ANALYTICAL RESULTS

POKER LAKE UNIT 23 DOG TOWN DRAW 108H LEASE
REMEDIATION PERMIT NUMBER 2RP-4870
EDDYCOUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
FS20	4.5	7/8/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	36	<14.9	36	36	285
FS21	4.5	7/8/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<14.9	17	<14.9	17	17	175
FS22	4.5	7/8/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	19.2	<15.0	19.2	19.2	183
FS23	8	8/1/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	26
FS24	8	8/1/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<15.0	28
FS25	0.5-1	8/1/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	101	<14.9	101	101	251
FS26	0.5-1	8/1/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	99	<15.0	99	99	275
FS27	0.5-1	8/1/2019	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	92	<15.0	92	92	260
FS28	0.5-1	8/1/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	100	<15.0	100	100	231
FS29	0.5-1	8/1/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	114	<15.0	114	114	231
NMOCD Table 1 Closure Criteria			10	NE	NE	NE	50	NE	NE	NE	1,000	2,500	20,000

Notes:

bgs - below ground surface

BTEX - benzene, toluene, ethylbenzene, and total xylenes

DRO - diesel range organics

GRO - gasoline range organics

mg/kg - milligrams per kilogram

MRO - motor oil range organics

NMAC - New Mexico Administrative Code

NMOCD - New Mexico Oil Conservation Division

NE - not established

TPH - total petroleum hydrocarbons

Bold - indicates result exceeds the applicable regulatory standard

< - indicates result is below laboratory reporting limits

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

ATTACHMENT 1: INITIAL/FINAL NMOCD FORM C-141 (2RP-4870)

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

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

JUL 20 2018

Form C-141
Revised April 3, 2017

DISTRICT II-ARTESIA O.C.D.

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

Release Notification and Corrective Action

NAB1820738071 OPERATOR ☒ Initial Report ☐ Final Report

Name of Company XTO Energy BOPCO NAD137	Contact Jeremy Graham
Address 6401 Holiday Hill Rd. Midland, TX 79707	Telephone No. 817-647-5681
Facility Name PLU 23 DTD 108H Lease	Facility Type Location

Surface Owner BLM	Mineral Owner BLM	API No. 3001542452
-------------------	-------------------	--------------------

Poker Lake Ut. 23 DTD #108H LOCATION OF RELEASE PLU 23 DTD 108H

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
A	23	24 S.	30 E	590	N	1020	E	Eddy

Latitude 32.209016* Longitude 103.846272* NAD83

NATURE OF RELEASE

Type of Release Oil base mud (OBM)	Volume of Release 37.6415	Volume Recovered 35.5 6415
Source of Release	Date and Hour of Occurrence	Date and Hour of Discovery
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom?	
By Whom? Jeremy Graham	Date and Hour 6/22/18 - 5:50 a.m.	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

N/A

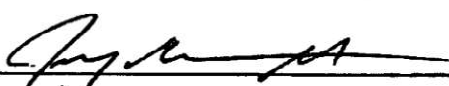
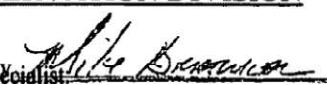
Describe Cause of Problem and Remedial Action Taken.*

Overflow of the trip tank

Describe Area Affected and Cleanup Action Taken.* OBM was contained on the pad.

Affected area was cleaned up by vac truck. Once RPT is given, final clean up measures will be taken by XTO Energy to complete remediation.

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

Signature: 		OIL CONSERVATION DIVISION	
Printed Name: Jeremy Graham		Approved by Environmental Specialist: 	
Title: Drilling SHE Manager		Approval Date: 7/20/18	Expiration Date: N/A
E-mail Address: jeremy-graham@xtoenergy.com		Conditions of Approval: See attached	
Date: 6/22/18	Phone: 817 647 5681	Attached: ARP-4870	

* Attach Additional Sheets If Necessary

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	
District RP	2RP-4870
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: XTO Energy, Inc	OGRID: 5380
Contact Name: Kyle Littrell	Contact Telephone: (432)-221-7331
Contact email: Kyle_Littrell@xtoenergy.com	Incident #: 2RP-4870
Contact mailing address: 522 W. Mermod, Suite 704 Carlsbad, NM 88220	

Location of Release Source

Latitude 32.209016 Longitude -103.846272
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Poker Lake Unit 23 Dog Town Draw 108H Lease	Site Type: Production Well Facility
Date Release Discovered: 6/24/2018	API# (if applicable): 30-015-42452

Unit Letter	Section	Township	Range	County
A	23	24S	30E	Eddy

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls):	Volume Recovered (bbls):
☐ Produced Water	Volume Released (bbls):	Volume Recovered (bbls):
	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) Oil based drilling mud	Volume/Weight Released (provide units) 37 bbls	Volume/Weight Recovered (provide units) 35.5 bbls

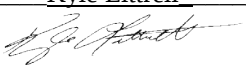
Cause of Release
Oil based drilling mud overflowed the trip tank. All released fluids were contained on the well pad.

Incident ID	
District RP	2RP-4870
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? Release volume was greater than 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? By Jeremy Graham to NMOCD and BLM on June 22, 2018, at 5:50 am.	

Initial Response

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

☒ The source of the release has been stopped. ☒ The impacted area has been secured to protect human health and the environment. ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. ☒ All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: N/A	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Kyle Littrell</u>	Title: <u>SH&E Supervisor</u>
Signature: 	Date: <u>11-1-2019</u>
email: <u>Kyle.Littrell@xtoenergy.com</u>	Telephone: <u>432-221-7331</u>
<u>OCD Only</u> Received by: _____ Date: _____	

Incident ID	
District RP	2RP-4870
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
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☒ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

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

State of New Mexico
Oil Conservation Division

Page 4

Incident ID	
District RP	2RP-4870
Facility ID	
Application ID	

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature:  Date: 11-1-2019

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

OCD Only

Received by: _____ Date: _____

Incident ID	
District RP	2RP-4870
Facility ID	
Application ID	

Remediation Plan

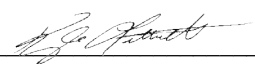
Remediation Plan Checklist: *Each of the following items must be included in the plan.*

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

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

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

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

Printed Name: Kyle Littrell Title: SH&E SupervisorSignature:  Date: 11-1-2019email: Kyle_Littrell@xtoenergy.com Telephone: (432)-221-7331**OCD Only**

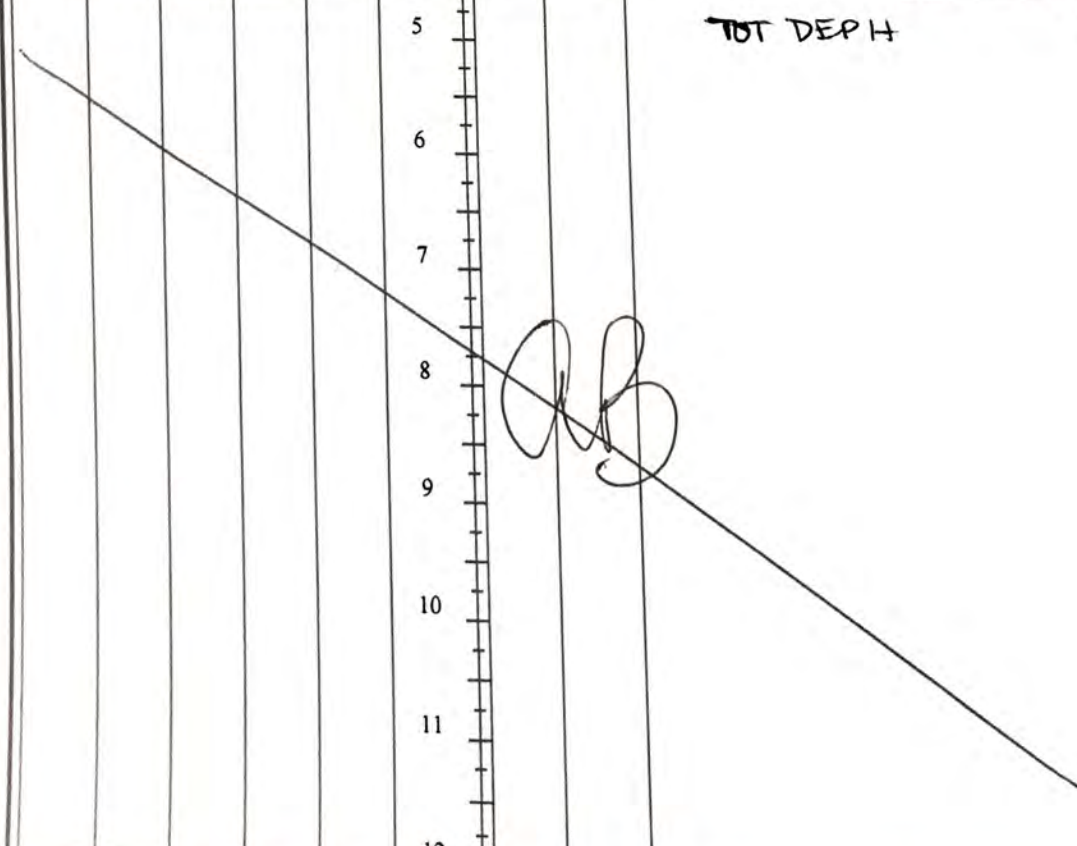
Received by: _____ Date: _____

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

Signature: _____ Date: _____

ATTACHMENT 2: LITHOLOGIC / SOIL SAMPLE LOGS

Released to Imaging: 6/29/2023 9:02:24 AM

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH02	Date: 6/26 - 6/27					
Project Name: PLU23 DTD 108H		RP Number: 2RP-4870						
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: A Byers	Method: Track Hoe					
Lat/Long:		Field Screening: PID / Cl- test strips	Hole Diameter: 2.5' x 5'					
Total Depth: 4.5'								
Comments: Cl- test strips: calculated ppm with 60% error								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	825.6	2.5	N	PH02	0			no odor, grey sandy (f.-c.) - gravel size grains, poorly sorted
M	742.4	0.2	N		1	0.5'	SM	caliche
					1	1.0'	SM	brown, poorly graded silt sand (m.), low plasticity
M	345.6	3.2	N		2	2'	SM	"
M	198.4	1.1	N		3	3'	SM	"
D	294.4	1.4	N	PH02A	4	4.5'	SM	lt brown, poorly graded silt sand (m.), no plasticity, compact clumps easily, broken w/ hand
TOT DEPTH								
								



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

Identifier:

PH03

Date:

6/26/19

Project Name:

PLU23 DTD 1084

RP Number:

2RP-4870

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: A Byers

Method: Track Hoe

Lat/Long:

Field Screening:

PID / CI - test strips

Hole Diameter:

2.5' x 6'

Total Depth:

8'

Comments:

CI - test strips: calculated ppm with 60% error

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	742.4	22.0	N		0	0.5'	caliche	no odor, grey, sand (f.-c.) to gravel size grains, poorly sorted
M	531.2	6.7	N		1	1.0'	SM	brown, poorly graded silt sand(m.), low plasticity
M	345.2	5.2	N		2	2.0'	SM	"
☐	531.2	3.8	N		3	3.0'	SM	lt. brown, poorly graded silt sand(m.), no plasticity
					4	4.5'	SM	"
D	992	6.6	N	PH03	5			
D	345.6	3.7	N		6	6.0'	SM	"
					7			
D	345.6	3.1	N	PH03A	8	8.0'	SM	lt brown, well graded silt sand(m.), no plasticity
TOT DEPTH								
					9			
					10			
					11			
					12			

		LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH04		Date: 6/27/19		
				Project Name: PLU23 DTD 1084		RP Number: 2RP-4870		
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: A Byers		Method: Track Hoe		
Lat/Long:		Field Screening: PID/Ci- test strips		Hole Diameter: 2.5' x 5'		Total Depth: 4.5'		
Comments: Ci- test strips: calculated ppm with 60% error								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	460.8	2.1	N	PH04	0			(m.-c.)
M	294.4	0.6	N		0.5'	0.5'	SM	silty sand with gravel, dark brown, well graded, no plasticity
D	<198.4	0.6	N		1	1.0'	SM	moist poorly graded silt sand (m.), dark brown, no plasticity
D	<198.4	0.7	N		2	2.0'	SM	poorly graded light brown silt sand (m.), no plasticity
D	<198.4	0.7	N		3	3.0'	SM	"
D	<198.4	2.1	N	PH04A	4	4.5'	SM	compact (easily broken w/ hand) "
					5	TOT DEPTH		
					6			
					7			
					8			
					9			
					10			
					11			
					12			

		LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PHDS		Date: 6/27/19		
				Project Name: PLU23 DTD 1084		RP Number: 2RP-4070		
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: A Byers		Method: Track Hoe		
Lat/Long:		Field Screening: PID / Cl⁻ test strips		Hole Diameter: 2.6' x 5'		Total Depth: 4.5'		
Comments: Cl⁻ test strips: calculated ppm with 60% error								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
M	2432	2.6	N	PHDS	0.5'		SM	dark brown poorly graded silt sand (m.), low plasticity
M	<198.4	1.5	N		1	1.0'	SM	"
D	<198.4	0.8	N		2	2.0'	SM	brown poorly graded silt sand (f.), no plasticity
D	<198.4	1.3	N		3	3.0'	SM	brown well graded silt sand (c.), no plasticity, clumped / compact
					4			
D	2944	Ø	N	PHDSA	4.5'		SM	brown well graded silt sand (m.), no plasticity
					5	TOT DEPTH		
					6			
					7			
					8			
					9			
					10			
					11			
					12			

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1/2

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH07	Date: 6/27 - 6/28/19					
		Project Name: PLU23 DTD 108H	RP Number: 2RP-4870					
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening: PID / CI - test strips	Logged By: A Byers Method: Track Hoe					
		Hole Diameter: 2.5' x 10'	Total Depth: 16'					
Comments: CI - test strips: calculated ppm with 60% error (H) High Range (L) Low Range CI-strips								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
D	1273.6	2.6	N			0.5'	sm	dark brown, poorly graded silt sand (m.), no plasticity
M	2105.6	Ø			1	1.0'	sm	"
M	2252.6	Ø			2	2.0'	sm	brown, poorly graded silt sand (m.), low plasticity
D	3347.2	Ø			3	3.0'	artificial	pinkish-tan, sandy (c.) to gravel size grains, poorly sorted
				PH07	4			
					5	4.5'		color gradually shifts to light grey with depth & compaction increase
				PH07A	6	6.0'		
					7			
					8	8.0'		
				PH07B	9			
					10	10.0'		Compact!
					11			
					12	12.0'		

2/2

		LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH07		Date: 6/27 - 6/28/19		
				Project Name: PLU23 DTD 1084		RP Number: 2RP-4870		
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: A Byers		Method: Track Hoe		
Lat/Long:		Field Screening: PID / Cl⁻ test strips		Hole Diameter: 2.5' x 10'		Total Depth: 16'		
Comments: Cl⁻ test strips: calculated ppm with 60% error								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	1177.6	0.5	N		14	14'	caliche	
D	<192.8	2.5	N	PH07C	16	16'		
					Tot DEPTH			

		LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH08		Date: 6/28/19		
Project Name: PLU23 DTD 108H		RP Number: 2RP-4870		Logged By: A Byers		Method: Track Hoe		
Lat/Long:		Field Screening: PID / CI - test strips		Hole Diameter: 2.5' x 5'		Total Depth: 4.5'		
Comments: CI - test strips: calculated ppm with 60% error								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	595.2 742.4	3.4	N	PH08	0	0.5'	SP	poorly graded sand with gravel, no plasticity, tan
D	243.2	3.2	N		1	1.0'	SM	brown poorly graded silt sand (m.), no plasticity
D	<198.4	2.7	N		2	2.0'	SM	"
D	<198.4	2.4	N		3	3.0'	SM	"
D	<198.4	26.5	N	PH08A	4	4.5'	SM	"
TOT DEPTH								
								

Released to Imaging: 6/29/2023 9:02:24 AM

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH10	Date: 6/28/19					
		Project Name: PLU23 DTD 1084	RP Number: 2RP-4870					
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: A Byers	Method: Track Hoe					
Lat/Long:		Field Screening: PID / Cl⁻ test strips	Hole Diameter:					
Total Depth:								
Comments: Cl⁻ test strips: calculated ppm with 60% error								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	992	0.1	N		0			
M	3584	Ø	N	PH10	0.5'		caliche	caliche, sand to gravel size grains, no plasticity, poorly sorted
					1	1.0'	SM	brown, poorly graded silt sand (m.), low plasticity
M	1715	0.5	N		2	2.0'	SM	"
D	345.6	0.1	N		3	3.0'	SM	light brown, poorly graded silt sand (m.), no plasticity
D	4984	0.1	N	PH10A	4	4.5'	SM	"
					5	TOT DEPTH		
					6			
					7			
					8			
					9			
					10			
					11			
					12			

		LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PMd1		Date: 6/28/19		
				Project Name: PLU23 DTD 1084		RP Number: 2RP-4870		
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: A Byers		Method: Track Hoe		
Lat/Long:		Field Screening: PID / Cl⁻ test strips		Hole Diameter:		Total Depth:		
Comments: Cl⁻ test strips: calculated ppm with 60% error								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	4008	92	N	PH11	0			
M	<1984	53	N		0.5'		caliche	tan, no odor, sand-gravel size grains, no plasticity, poorly sorted
					1.0'			
M	<1984	4.6	N		2.0'			brown poorly graded silt sand (m.), low plasticity
M	<1984	4.1	N		3.0'			"
D	<1984	1.8	N	PH11A	4.0'			
					4.5'			light brown poorly graded silt sand (m.), no plasticity
					5			TOT DEPTH
					6			
					7			
					8			
					9			
					10			
					11			
					12			

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1/2

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH13	Date: 6/28/19					
		Project Name: PLU23 DTD 1084	RP Number: 2RP-4870					
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening: PID / Cl- test strips	Logged By: A Byers Method: Track Hoe					
		Hole Diameter: 2.5' x 10'	Total Depth: 15'					
Comments: Cl- test strips: calculated ppm with 60% error								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	198.4	14.2	N		0			
M	198.4	6.0	N		0.5'		caliche	caliche / silt sand interface
M	198.4	11.9	N		1	1'	SC	dark brown, poorly graded ^{clayey} silt sand (f.) mod plasticity
M	198.4	9.2	N		2	2'	SC	"
M	992	9.2	N		3	3'	SC	brown, poorly graded silt sand (m.), low plasticity
D	3347.2	9.3	N	PH13	4	4.5'	SC	lt. brown, poorly graded silt sand (m.), low plasticity, holds shape
D	3347.2	8.2	N		5	6'	caliche	tan, silt / sand to gravel size grains, soft, no plasticity, poorly sorted
D	1484.8	1.2	N		6	8'		brown sandy (c) caliche, well sorted, no plasticity
					7			
					8			
					9			
					10			
					11	11'		tan, silt to gravel size grains, no plasticity poorly sorted
D	1715.2	3.5	N		12	12'		"

2/2



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

Compliance · Engineering · Remediation

Identifier:

PH 13

Date:

6/20/19

Project Name:

PLU23 DTD 1084

RP Number:

2RP-4070

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: A Byers

Method: Track Hoe

Lat/Long:

Field Screening:

PID / CI - test strips

Hole Diameter:

2.5' x 10'

Total Depth:

15'

Comments:

CI - test strips: calculated ppm with 60% error

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
D	2400.4	Ø	N		14	14'		well cemented brown, poorly sorted (sand - gravel size grains), no plasticity
D	3129.6	Ø	N	RH13A	15	15'		well cemented reddish brown, well sorted, brittle
TOTDEPTH								



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

Compliance · Engineering · Remediation

Identifier:

PH14

Date:

07/01/19

Project Name

PLU 23 DTD 1004H

RP Number:

220-4870

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long

32.209498, -103.840308

Field Screening:

PID / air test strips

Logged By: A Byers

Method: Track Hole

Hole Diameter:

2.5' x 5'

Total Depth:

4.5'

Comments:

60% error calc per CL

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
0915 D	329.4 (34)	2.7	N		0			
0920 M	320 (2.2)	4.0	N		1	0.5'	caliche	sandy, tan, dry, no plasticity, poorly sorted (sand-gravel size grains), no odor
0922 D	433.4 (5.2)	3.4	N	PH14	2	1.0'	SM	brown poorly graded silt sand (m.), low plasticity
0925 D	178.2 (1.6)	4.4	N		3	2.0'	caliche	tan, sandy, dry, no plasticity, poorly sorted (sand-gravel size grains)
					4	3.0'	"	"
0927 D	2178.4 (20)	0.7	N	PH14A	5	4.5'	"	light brown, dry, no plasticity, well sorted (sand m-c.)
					6	TOT DEPTH		
					7			
					8			
					9			
					10			
					11			
					12			

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LT Environmental, Inc.
508 West Stevens Street
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Compliance · Engineering · Remediation

Identifier:

PH16

Date:

7/1/19

Project Name:

PLU 23 DTD 1004

RP Number:

2RP-4870

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long:

32.208911, -103.46278

Field Screening:

PID/C1- test strips

Logged By: A Byers

Method: Track box

Hole Diameter:

2.5' x 8'

Total Depth:

8'

Comments:

60% error calc ppm (C1-)

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1130 D	966.4 (4.0)	0	NO		0			
1132 M	652.8 (3.2)	0.3	NO		1	0.5'	Caliche	sandy tan poorly sorted sand-gravel size grains, no odor
1135 M	806.4 (3.6)	0	NO		2	1	SM	brown poorly graded silt sand (m.), low plasticity
1137 M	2566.4 (6.6)	1.3	NO		3	2	SM	"
1140 M	1731.2 (6.8)	1.8	NO	PH16	4	3	SM	"
1205 D	<198.2	6.2	NO		5	4.5'	SC	lt brown-tan, poorly graded clayey sand (m.), low plasticity
1207 D	243.2	3.3	NO	PH16A	6	6.0'	SC	"
					7			
					8	8.0'	SC	lighter brown sand than at shallower depths, poorly graded (clayey sand (m.), compact (clumped, easily broken by hand), low plasticity
					9			TOT DEPTH
					10			
					11			
					12			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH7	Date: 7/1/19					
		Project Name: PLU 23 DTD 108H	RP Number: 22P-4870					
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: AB	Method: Track Hole					
Lat/Long: 32.208846, -103.846295		Field Screening: PID/Cr test strips	Hole Diameter: 2.5" x 5"					
Total Depth: 4.5'								
Comments: 100% error scale ppm (Cr)								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
1250	D (2.4)	75000	Y			0.5'	SM	well graded brown ^{gravelly} silt sand (m), no plasticity
1255	M (4.2)	32.9	N	PH7	1	1.0'	SM	poorly graded brown silt sand (m.), low plasticity
1300	M (3.6)	121.8			2	2	SM	"
1302	M (3.2)	15.7			3	3	SM	"
					4			
1305	M (2.6)	16.3		PH7A	5	4.5'	SC	light brown clayey sand, poorly graded, low plasticity - clumped but easily broken apart w/ hands
					6			TOT DEPTH
					7			
					8			
					9			
					10			
					11			
					12			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH18	Date: 7/11/19					
		Project Name: PLU 23 DTD 100H	RP Number: 2LP-4890					
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: APB	Method: Trail bore					
Lat/Long: 32.208753 -102.846298		Field Screening: PID / CI test strips	Hole Diameter: 2.5' x 3'					
Comments: (100% error calc ppm (CI-))		Total Depth: 4.5'						
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0		caliche	odor, well graded/poorly sorted caliche
1355	D (13.6)	96.99	Y		0.5'		sm	
1400	M (2.6)	54.8	N		1'		sm	poorly graded brown silt sand (m.), low plasticity, no odor
1402	M (3.6)	10.5	N	PH18	2'		sm	"
1405	M (3.4)	10.2	N		3'		sm	"
1407	M (1.6)	16.8	N	PH18A	4.5'		SC	light brown clayey sand (m.), poorly graded, mod plasticity
					6	TO DEPTH		
					7			
					8			
					9			
					10			
					11			
					12			

		LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH19		Date: 7/1/19		
				Project Name: PLU 23 DTD LOH		RP Number: 2RP-4870		
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: A Byers		Method: Track Hole		
Lat/Long: 32.208931, -105.846420		Field Screening: PID/CI- test strips		Hole Diameter: 2.5' x 4.5'		Total Depth: 4.5'		
Comments: 60% error ppm calc (CI-)								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
1505 D	(5.4)	745.7	Y	PH19A	0.5'	0.5'	clayey	brown/tan, odor, poorly sorted sand-gravel size
1508 D	(3.4)	43.5	Y		1	1.0'	SM	brown, poorly graded silt sand (m.), no plasticity, odor, roots
1510 M	(2.0)	16.8	N		2	2	SM	brown poorly graded silt sand (m.), low plasticity, organics (roots)
1515 M	(2.2)	21.2	N		3	3	SM	brown, poorly graded silt sand (m.), low plasticity, roots
1518 D	(1.0)	14.1	N	PH19A	4.5'	4.5'	SM	brown, well graded gravelly silt sand (m.), no plasticity
					6	TO DEPTH		
					7			
					8			
					9			
					10			
					11			
					12			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH20	Date: 7/1/19					
Project Name: PLU 23 DTD 100H		RP Number: 288-4870						
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: A Byers	Method: Track the					
Lat/Long: 32.208845, -103.846433		Field Screening: AD / Cl⁻ test strips	Hole Diameter: 2.5' x 8'					
Comments: Cl⁻ ppm calc w/ 100% conc		Total Depth: 8'						
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
1545	D 2.2	15.6	Y		0.5'	sm		partly graded, brown silt sand (m.) no plasticity
1547	D 2.4	9.6	N		1.0'	sm		"
1550	D 3.2	9.0	N		2.0'	sm		"
1555	M 4.6	14.5	N	PH20	3.0'	SC		poorly graded brown clayey sand (m.) low - med plasticity
1557	M 4.4	14.7	N		4.5'	SC		"
1640	D 3.7	7.6	N		6.0'	sm		poorly graded, brown silt sand (c.), no plasticity
1645	D 4.0	8.1	N	PH20A	8.0'	sm		"
					9	TOT DEPTH		
					10			
					11			
					12			

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Compliance · Engineering · Remediation

Identifier:

PH22

Date:

7/2/19

Project Name:

PLU 23 DD 108H

RP Number:

2RP-4876

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: A Byers

Method: Track Hoe

Lat/Long:

32.2086847, -103.84615416

Field Screening:

PH/C1- test strips

Hole Diameter:

2.5 x 5'

Total Depth:

4.5'

Comments:

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1145	D 460.8 (1.4)	6.7	N	PH22	0			
1150	M 243.2 (1.8)	2.1	N		1	0.5	caliche	sandy, caliche (m.), sand to gravel size grains, poorly sorted
1155	M 198.4 (1.0)	1.7	N		2	1	SM	brown poorly graded silt sand (m.), low plasticity
1200	M 198.4 (1.0)	0.7	N		3	2	SM	"
1205	M 198.4 (1.0)	0.1	N	PH22A	4	3	SM	"
					5	4.5	SC	light brown, poorly graded clayey sand mod plasticity
TOT DEPTH								
					6			
					7			
					8			
					9			
					10			
					11			
					12			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH23	Date: 7/2/19					
		Project Name: PLU 23 DTD 1084	RP Number: 2RP-4870					
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long: 32.208805, -103.846541		Field Screening: PID/CI test strips	Logged By: A Byers Method: Track Hoe					
		Hole Diameter: 2.5' x 6'	Total Depth: 6'					
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
1236		76.9	Y		0			
1235		109 216.8	Y	PH23	1	0.5	caliche	poorly sorted, dark brown/black silt - gravel size grains
1237	M	209.5	Y		2	1	sm	poorly graded dark brown silt sand (m.), no plasticity
1240	M	71.7	N		3	2	sm	poorly graded, brown silt sand (m.), low plasticity
1245	M	17.9	N		4	3	sm	"
1748	M	14.7	N	PH23A	6	4.5'	sm	"
	<198.4				6'	6'	sm	light brown, poorly graded silt sand mod plasticity
TOT PEANT								
								

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH24	Date: 7/2/19					
		Project Name: PLU 23 DTD108H	RP Number: 2RP-4890					
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: A Byers	Method: Track Hole					
Lat/Long: 32.708756, -103.846585		Field Screening: PID / Cl test strips	Hole Diameter: 2.5" x 5"					
		Total Depth: 4.5'						
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
1310	M	4.6		PH24	0.5'			no odor, poorly graded silt sand (m), low plasticity, dark brown
1315	M	3.6			2.0			no odor, poorly graded silt sand (m), no plasticity
1320	M	2.9		PH24A	4.5'			light brown "
								JOT DEPTH
					6			
					7			
					8			
					9			
					10			
					11			
					12			

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

Compliance · Engineering · Remediation

Identifier:

PH26

Date:

7/8/19

Project Name:

PLU23 DTD 1084

RP Number:

2RP-4870

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: A Byers

Method: Track Hoe

Hole Diameter:

2.5' x 8'

Total Depth:

8

Lat/Long:

32.201015, -103.846508

Field Screening:

PID / Cl⁻ test strips

Comments:

Cl⁻ test strips: calculated ppm with 60% error

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
1355	M	1864	Y		0.5'		SP-SM	brown, odor poorly sorted / well graded sand with silt (m.), moist, no plasticity
1358	M	3181	Y	PH26	1	1'	SW-SM	dark brown, back, well graded sand with silt (m.), moist, no plasticity, odor
1400	D	1838	N		2	2'	SM	brown, poorly graded silt sand (m.) no plasticity, odor
1405	M	1390	N		3	3'	SM	brown, poorly graded silt sand (m.) no plasticity, odor
					4	4'		
1408	M	1169	N		4.5'		SC	brown, low plasticity, poorly graded clayey sand (c.), odor
					5			
1425	D	35.9	N		6	6'	SM	light brown sand with silt (m.), no plasticity, poorly graded, no odor
					7			
1430	D	498.4	N	PH26A	8	8'	SM	" compact, no odor
					9			
					10			
					11			
					12			



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

Compliance · Engineering · Remediation

Identifier:

PH27

Date:

7/8/19

Project Name:

PLU23 DTD 1084

RP Number:

2RP-4870

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: A Byers

Method: Track Hoe

Lat/Long:

32.209039, -103.846641

Field Screening:

PID / Cl⁻ test strips

Hole Diameter:

2.5' x 6'

Total Depth:

4.5'

Comments:

Cl⁻ test strips: calculated ppm with 60% error

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			
1450	D	3.2	11.0	N	PH27	0.5'	caliche	caliche / poorly graded brown silt sand (m) interface
1452	M	498.4	8.3	N		2.0'	SM	poorly graded brown silt sand (m), no plasticity roots
					3			
					4			
1455	D	498.4	7.0	N	PH27A	4.5'	SW-SM	well graded light brown sand w/ silt (m), no plasticity
					6			
					7			
					8			
					9			
					10			
					11			
					12			

		LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH28		Date: 7/8/19			
				Project Name: PLU23 DTD 1084		RP Number: 2RP-4870			
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: A Byers		Method: Track Hoe			
Lat/Long: 32.209145, -103.846574		Field Screening: PID / Cl⁻ test strips		Hole Diameter: 2.5' x 5'		Total Depth: 4.5'			
Comments: Cl⁻ test strips: calculated ppm with 60% error									
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks	
					0				
					0.5		caliche		
1530	D	(3.2)	330	Y	PH28	1	1.0	SM	poorly graded, moist brown silt sand (m.), low plasticity
1535	m		5.3	N	PH	2	2.0	"	"
1537	m		6.4	N		3	3.0	SM	well graded, moist brown silt sand (m.), no plasticity
1540	m		3.5	N		4	4.5'	SM	poorly graded, lt brown silt sand (m.), low plasticity
1545	m		7.1	N	PH28A	5			
					6				
					7				
					8				
					9				
					10				
					11				
					12				

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation					Identifier: PH29		Date: 7/9/2019		
					Project Name: PLU 23 DTD 108H		RP Number: 2RP-4870		
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: Anna Byers		Method: Track-hoe		
Lat/Long: 32.20928359N, 103.84659678W			Field Screening: HACH Chloride Strips & MiniRAE 3000 PID			Hole Diameter: N/A		Total Depth: 4.5 ft	
Comments:									
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks	
					0				
D	<198.4	3.2	NO	PH29		0.5 ft	Caliche	Pad surface, not an insitu caliche horizon	
M	<198.4	3.5	NO		1	1 ft	SM	Light brown silt sand (m.), poorly graded, no plasticity, no odor	
M	<198.4	3.3	NO		2	2 ft	SM	Light brown silt sand (m.), poorly graded, no plasticity, no odor	
M	<198.4	2.9	NO		3	3 ft	SM	Light brown silt sand (m.), poorly graded, no plasticity, no odor	
					4				
M	<198.4	4	NO	PH29A		4.5 ft	SM	Light brown silt sand (m.), poorly graded, no plasticity, no odor	
					Total Depth				
					5				
					6				
					7				
					8				
					9				
					10				
					11				
					12				

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation					Identifier: PH30		Date: 7/9/2019		
					Project Name: PLU 23 DTD 108H		RP Number: 2RP-4870		
LITHOLOGIC / SOIL SAMPLING LOG					Logged By: Anna Byers		Method: Track-hoe		
Lat/Long: 32.20917594N, 103.84693131W			Field Screening: HACH Chloride Strips & MiniRAE 3000 PID			Hole Diameter: N/A		Total Depth: 4.5 ft	
Comments:									
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks	
					0				
D	<198.4	5.1	NO	PH30		0.5 ft	Caliche	Pad surface, not an insitu caliche horizon	
M	<198.4	5.0	NO		1	1 ft	SM	Light brown silt sand (m.), poorly graded, no plasticity, no odor	
M	<198.4	3.4	NO		2	2 ft	SM	Light brown silt sand (m.), poorly graded, no plasticity, no odor	
					3				
					4				
M	<198.4	4.8	NO	PH30A		4.5 ft	SM	Light brown silt sand (m.), poorly graded, no plasticity, no odor	
									Total Depth
					5				
					6				
					7				
					8				
					9				
					10				
					11				
					12				

		LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH31		Date: 7/9/2019		
				Project Name: PLU 23 DTD 108H		RP Number: 2RP-4870		
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: Anna Byers		Method: Track-hoe		
Lat/Long: 32.20881732N, 103.84654625W		Field Screening: HACH Chloride Strips & MiniRAE 3000 PID		Hole Diameter: N/A		Total Depth: 8.5 ft		
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			EXCAVATED
					1			
					2			
					3			
					4			
M		78.6	NO	PH31		4.5 ft	SM	Light brown silt sand (m.), poorly graded, no plasticity, odor
					5			
					6			
M	<198	6.5	NO	PH31A		6.5 ft	SM	Light brown silt sand (m.), poorly graded, no plasticity, no odor
					7			
					8			
M	<198	10.1	NO			8.5 ft	SM	Light brown silt sand (m.), poorly graded, no plasticity, no odor
					9			Total Depth
					10			
					11			
					12			

 LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH32	Date: 7/9/2019					
		Project Name: PLU 23 DTD 108H	RP Number: 2RP-4870					
LITHOLOGIC / SOIL SAMPLING LOG		Logged By: Anna Byers	Method: Track-hoe					
Lat/Long: 32.20883918N, 103.84642116W		Field Screening: HACH Chloride Strips & MiniRAE 3000 PID	Hole Diameter: N/A					
Total Depth: 6.5 ft								
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			EXCAVATED
					1			
					2			
					3			
					4			
M		15.7	NO	PH32		4.5 ft	SM	Light brown silt sand (m.), poorly graded, no plasticity, odor
					5			
					6			
M	294.4	5.4	NO	PH32A		6.5 ft	SM	Light brown silt sand (m.), poorly graded, no plasticity, no odor
					7			Total Depth
					8			
					9			
					10			
					11			
					12			

		LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH33		Date: 7/9/2019		
				Project Name: PLU 23 DTD 108H		RP Number: 2RP-4870		
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: Anna Byers		Method: Track-hoe		
Lat/Long: 32.20889759N, 103.84638028W		Field Screening: HACH Chloride Strips & MiniRAE 3000 PID		Hole Diameter: N/A		Total Depth: 8.5 ft		
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			EXCAVATED
					1			
					2			
					3			
					4			
M		10.7	NO	PH33		4.5 ft	SM	Light brown silt sand (m.), poorly graded, no plasticity, odor
					5			
					6			
M	<198	1.9	NO	PH33A		6.5 ft	SM	Light brown silt sand (m.), poorly graded, no plasticity, no odor
					7			
					8			
M	<198	1.1	NO			8.5 ft	Caliche	Light brown, poorly cemented dry, sandy (m.) caliche
					9			Total Depth
					10			
					11			
					12			

		LT Environmental, Inc. 508 West Stevens Street Carlsbad, New Mexico 88220 Compliance · Engineering · Remediation		Identifier: PH34		Date: 7/9/2019		
				Project Name: PLU 23 DTD 108H		RP Number: 2RP-4870		
LITHOLOGIC / SOIL SAMPLING LOG				Logged By: Anna Byers		Method: Track-hoe		
Lat/Long: 32.20889638N, 103.84652435W		Field Screening: HACH Chloride Strips & MiniRAE 3000 PID		Hole Diameter: N/A		Total Depth: 8.5 ft		
Comments:								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth	Soil/Rock Type	Lithology/Remarks
					0			EXCAVATED
					1			
					2			
					3			
					4			
M		20.1	NO	PH34		4.5 ft	SM	Light brown silt sand (m.), poorly graded, no plasticity, odor
					5			
					6			
M	460.8	5.0	NO	PH34A		6.5 ft	SM	Light brown silt sand (m.), poorly graded, no plasticity, no odor
					7			
					8			
M	<198	1.6	NO			8.5 ft	SM	Light brown silt sand (m.), poorly graded, no plasticity, no odor
					9			Total Depth
					10			
					11			
					12			

ATTACHMENT 3: PHOTOGRAPHIC LOG





Southeast facing view of the southern portion of the excavation.

Project: 012919134	XTO Energy, Inc. Poker Lake Unit 23 Dog Town Draw 108H	 Advancing Opportunity
July 9, 2019	Photographic Log	



North facing view of the central portion of the excavation.

Project: 012919134

XTO Energy, Inc.
Poker Lake Unit 23 Dog Town Draw 108H

August 1, 2019

Photographic Log





East facing view of the northern portion of the excavation.

Project: 012919134	XTO Energy, Inc. Poker Lake Unit 23 Dog Town Draw 108H	 Advancing Opportunity
August 1, 2019	Photographic Log	

ATTACHMENT 4: LABORATORY ANALYTICAL REPORTS



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

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

CONDITIONS

Action 202620

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 202620
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bhall	Deferral approved. Numerous samples collected during the delineation and confirmation sampling events in the upper 4 feet of soil are above the reclamation standards. Area deferred and areas above the reclamation standard will need to be addressed at time of plugging and abandonment and will need to meet all the requirements of 19.15.29 NMAC.	6/29/2023