LT Environmental, Inc.

820 Megan Avenue, Unit B Rifle, Colorado 81650 970.285.9985



June 24, 2020

Mike Bratcher NMOCD District 2 811 South First Street Artesia, NM 88210

RE: Remediation Work Plan and Variance Request WPX Energy Permian, LLC Remediation Permit Number 2RP-5628 Swearingen #001 Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of WPX Energy Permian, LLC (WPX), is pleased to present the following Remediation Work Plan and Variance Request detailing soil sampling activities and proposed remediation at the Swearingen #001 well pad (Site) located in Unit J, Section 4, Township 23 South, Range 28 East, Eddy County, New Mexico, as depicted on Figure 1.

BACKGROUND

The release was discovered on August 23, 2019 after a failed injection line caused the release of 20 barrels (bbls) of produced water to the well pad surface. Approximately 15 bbls of fluid were recovered immediately and returned to disposal. The release affected approximately 8,937 square feet of the well pad surface. The release footprint was mapped (Figure 2) using a Global Positioning System (GPS). WPX reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on August 28, 2019 and was subsequently assigned Remediation Permit (RP) Number 2RP-5628 (Attachment 1).

SITE CHARACTERIZATION

LTE determined closure criteria according to Table 1, Closure Criteria for Soils Impacted by a Release, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is less than 50 feet below ground surface (bgs) based on site assessment activities conducted in April 2020. The nearest permitted water well with depth to water data is C 00800, located approximately 3,800 feet southeast of the Site. Water well C 00800 has a reported depth to water of 30 feet bgs. The closest significant watercourse to the Site is the Pecos River located approximately 860 feet south of the Site. The Site is greater than 300 feet from any 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 medium-potential karst area. Potential receptors identified during site characterization are displayed in Figure 1.

CLOSURE CRITERIA

Based on these criteria, the following NMOCD Table 1 Closure Criteria apply:

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

INITIAL SOIL SAMPLING

On August 27, 2019, LTE collected two surface soil samples from the release area (SS01 and SS02). The soil samples were field screened for volatile aromatic hydrocarbons using a calibrated photoionization detector (PID) and chloride using Hach[®] chloride QuanTab[®] test strips. The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler, and method of analysis and immediately placed on ice. The soil samples were shipped at 4 degrees Celsius (°C) to Xenco Laboratories in Midland, Texas, under strict chain-of-custody procedures for analysis of BTEX by United States Environmental Protection Agency (USEPA) Method 8021B, TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-motor oil range organics (MRO) by USEPA Method 8015M, and chloride by USEPA Method 300.0.

Laboratory analytical and field screening results of soil samples indicated chloride concentrations exceeded the Closure Criteria within the release area, warranting additional delineation of the impacts. Laboratory analytical results and soil sample locations are presented on Figure 2.

SUBSURFACE INVESTIGATION

From August 29 to December 13, 2019, LTE oversaw the advancement of nine potholes (PH01 through PH09) and one background soil boring (BG01) at the Site. Potholes where advanced within the release footprint to characterize impacted soil, immediately adjacent to the release footprint to delineate the release, and between 50 feet to 100 feet away from the release to investigate background chloride concentrations. Potholes ranged in depth from 0.5 feet bgs to 9 feet bgs. Excluding soil samples PH01 through PH03, two soil samples were collected from each soil boring: the most impacted depth based on field screening results and the terminus of the borehole. The soil samples were field screened for volatile aromatic hydrocarbons using a PID and chloride using Hach® chloride QuanTab® test strips. Due to BTEX and TPH concentrations for preliminary soil samples PH01 through PH04 were analyzed. Remaining delineation soil



samples collected outside the release extent (PH05 through PH09) were analyzed for BTEX, TPH and chloride. All soil samples were collected and handled as previously described.

On April 1 and 2, 2020, LTE directed the advancement of six soil borings (SB01 through SB06) to continue the characterization and delineation of the identified chloride impacts and obtain additional background data. Using hollow stem drilling technology, the soil borings were advanced to depths ranging from 12.2 feet bgs to 25 feet bgs. Soil boring advancement was directed by an LTE geologist who inspected soil samples for the presence or absence of petroleum hydrocarbon odor and/or staining. The soil was characterized by visually inspecting soil samples and field screening the soil headspace using a calibrated PID to monitor for the presence of volatile organic vapors and Hach[®] chloride QuanTab[®] test strips for chloride. All soil samples were collected, handled, and analyzed for BTEX, TPH and chloride.

During the advancement of soil boring SB01, groundwater was encountered at approximately 20 feet bgs. Temporary well casing was installed in SB01 to allow the groundwater table to equilibrate. After approximately 24 hours, the groundwater table was measured in SB01 at approximately 19.8 feet bgs. All soil borings were abandoned by filling the boreholes with hydrated bentonite. Soil boring and pothole locations are depicted on Figure 3. All Lithologic Soil Sampling Logs are included as Attachment 2.

LABORATORY ANALYTICAL RESULTS

Laboratory analytical results of delineation soil samples utilizing heavy equipment indicated chloride concentrations exceeding the Closure Criteria ranging from 846 mg/kg in soil sample PH04A collected at 4 feet bgs to 15,900 mg/kg in PH01 collected from 1.5 feet bgs. The soil sample collected from BG01 at 3 feet bgs contained 1,300 mg/kg of chloride.

Laboratory analytical results of delineation soil samples utilizing a hollow stem drill rig indicate chloride concentrations ranging from 340 mg/kg in soil sample SB05 to 4,420 mg/kg in soil sample SB06.

Laboratory analytical results of all soil samples indicate concentrations of BTEX and TPH that are either below the laboratory detection limit or are compliant with Closure Criteria. Laboratory analytical results are summarized in Table 1. The complete laboratory analytical reports are included as Attachment 3.

BACKGROUND CHLORIDE CONCENTRATIONS

Soil boring BG01 was collected in an undisturbed area off pad to investigate the potential for naturally occurring elevated chloride in subsurface soils. Additional potholes and soil borings were installed at a range of locations on pad and off pad and sampled at different depths to comprehensively characterize naturally occurring chloride in subsurface soils. The potholes and soil borings were no closer than 50 feet but no farther than 100 feet from the lateral and



horizontal extents of the release and representative of the entire horizontal and vertical extent of the release as recommended in NMOCD's Procedures for Implementation of the Spill Rule (Guidelines).

Background potholes and soil borings include BG01, PH05, PH06, PH07, PH08, and PH09. Samples collected from these borings range from 1 foot bgs to 9 feet bgs. Laboratory analytical results from these samples indicate background chloride concentrations in this area are variable with a maximum background chloride concentration of 2,510 mg/kg as documented in PH07A at 6 feet bgs. The background sample concentrations are listed in Table 1.

BACKGROUND DELINEATION INTERPRETATION

Based on naturally occurring elevated chloride conditions, impacted soil was identified as all soil containing chloride concentrations exceeding 2,510 mg/kg. This includes impacted soil within the release footprint represented by soil samples PH01, PH02, and PH03 and shallow soil to the east of the release footprint at soil boring SB06.

PROPOSED WORK PLAN

An estimated 1,800 cubic yards of impacted soil remain in place, assuming a maximum depth of 9 feet bgs in the release footprint based on soil samples collected from potholes PH01, PH02, PH03, and 3 feet bgs off pad in soil boring SB06. WPX plans to complete remediation of the Site through excavation of all remaining impacted soil containing chloride concentrations above the observed background concentration (Figure 3). Excavation activities will be directed by field screening soil samples for volatile aromatic hydrocarbons using a PID and chloride using Hach[®] chloride QuanTab[®] test strips. When field screening measurements indicate the removal of impacted soil, floor and sidewall composite soil samples be collected from the excavation. All excavated soil will be transported offsite to an approved facility for disposal.

SAMPLE VARIANCE REQUEST

If confirmation soil samples are to be collected for every 200 square feet, it is estimated that over 50 soil samples would need to be collected and analyzed. WPX is requesting to collect soil samples every 500 square feet, reducing the total number of samples to approximately 21. Soil samples will be submitted for laboratory analysis of chloride by USEPA Method 300.0. Due to the lack of BTEX and TPH concentrations observed in all soil samples collected to date, WPX is requesting this reduced analyte list.

PROPOSED SCHEDULE

WPX will complete these remedial activities and provide a report detailing all activities with a request for closure within 90 days of the date of approval of this work plan by NMOCD. An updated NMOCD Form C-141 is included in Attachment 1



If you have any questions or comments, please do not hesitate to contact Mr. Chris McKisson at (970) 285-9985 or cmckisson@ltenv.com.

Sincerely,

LT ENVIRONMENTAL, INC.

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Chris McKisson Project Environmental Scientist

cc: Jim Raley, WPX

Attachments:

- Figure 1 Site Location Map
- Figure 2 Site Map
- Figure 3 Delineation Soil Sample Locations
- Table 1Soil Analytical Results
- Attachment 1 Form C-141
- Attachment 2 Lithologic/Soil Sampling Logs
- Attachment 3 Laboratory Analytical Reports

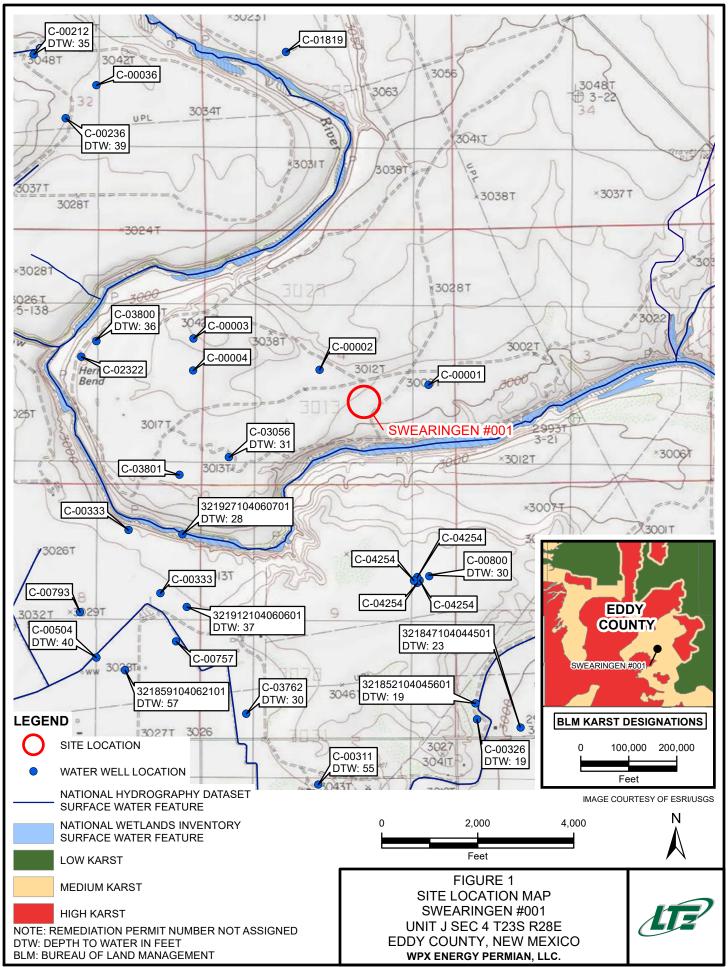
Ashley L. ager

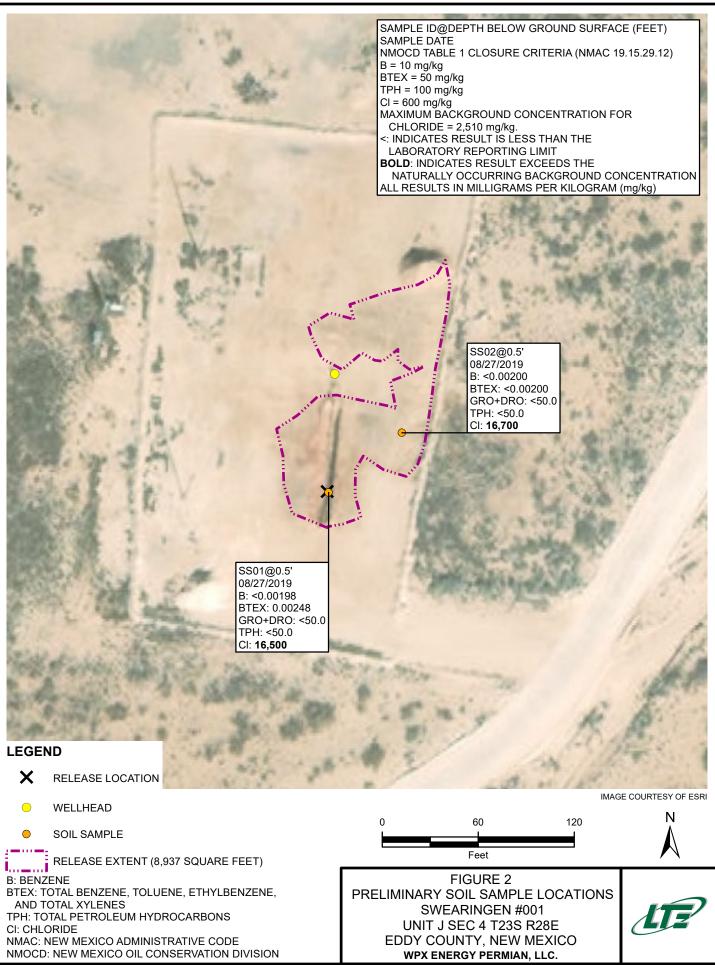
Ashley L. Ager, M.S., P.G. Senior Geologist

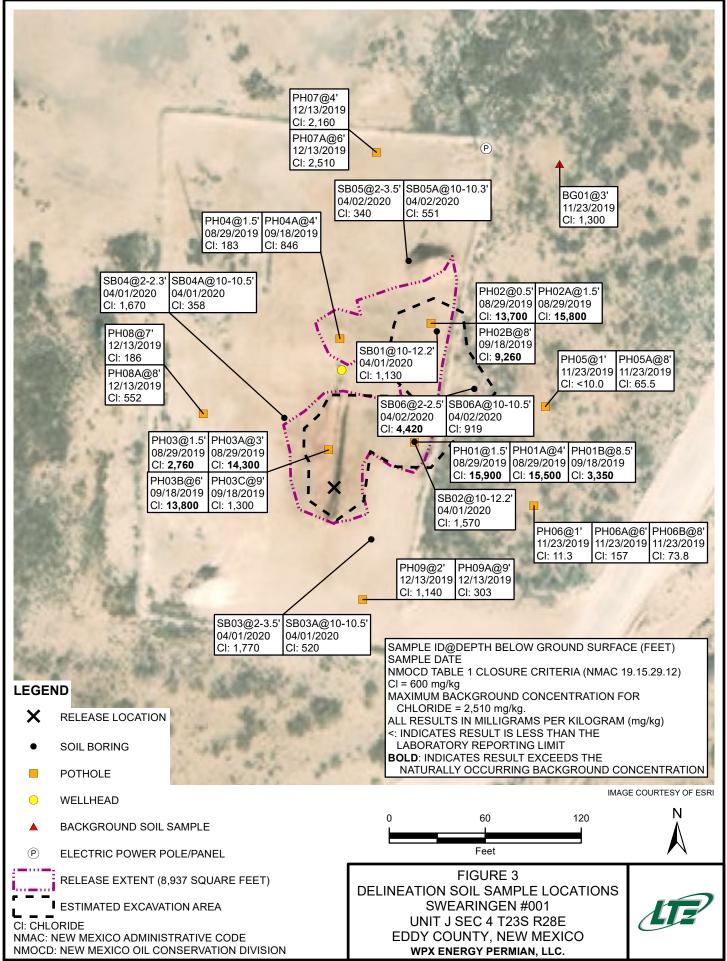
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FIGURES









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TABLES



TABLE 1

SOIL ANALYTICAL RESULTS

SWEARINGEN #001 REMEDIATION PERMIT NUMBER 2RP-5628 EDDY COUNTY, NEW MEXICO WPX ENERGY PERMIAN, 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)	Application
						BAC	GROUND SAM	IPLES	- -					
BG01	3	11/23/2019	-	-	-	-	-	-	-	-	-	-	1,300	In-situ
PH05	1	11/23/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.2	<50.2	<50.2	<50.2	<50.2	<10.0	In-situ
PH05A	8	11/23/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	65.5	In-situ
PH06	1	11/23/2019	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<50.1	<50.1	<50.1	<50.1	<50.1	11.3	In-situ
PH06A	6	11/23/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	157	In-situ
PH06B	8	11/23/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.1	<50.1	<50.1	<50.1	<50.1	73.8	In-situ
PH07	4	12/13/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	2,160	In-situ
PH07A	6	12/13/2019	<0.00196	<0.00196	<0.00196	<0.00196	<0.00196	<50.0	<50.0	<50.0	<50.0	<50.0	2,510	In-situ
PH08	7	12/13/2019	<0.00196	<0.00196	<0.00196	<0.00196	<0.00196	<50.2	<50.2	<50.2	<50.2	<50.2	186	In-situ
PH08A	8	12/13/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	552	In-situ
PH09	2	12/13/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	1,140	In-situ
PH09A	9	12/13/2019	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	303	In-situ
						DELINE	ATION SOIL SA	MPLES						
SS01	0.5	08/27/2019	<0.00198	0.00248	<0.00198	<0.00198	0.00248	<50.0	<50.0	<50.0	<50.0	<50.0	16,500	In-situ
SS02	0.5	08/27/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	16,700	In-situ
PH01	1.5	08/29/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15,900	In-situ
PH01A	4	08/29/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15,500	In-situ
PH01B	8.5	09/18/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3,350	In-situ
PH02	0.5	08/29/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13,700	In-situ
PH02A	1.5	08/29/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15,800	In-situ
PH02B	8	09/18/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9,260	In-situ
PH03	1.5	08/29/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2,760	In-situ
PH03A	3	08/29/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14,300	In-situ
PH03B	6	09/18/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13,800	In-situ



TABLE 1

SOIL ANALYTICAL RESULTS

SWEARINGEN #001 REMEDIATION PERMIT NUMBER 2RP-5628 EDDY COUNTY, NEW MEXICO WPX ENERGY PERMIAN, 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)	Application
PH03C	9	09/18/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1,300	In-situ
PH04	1.5	08/29/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	183	In-situ
PH04A	4	09/18/2019	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	846	In-situ
SB01	10 - 12.2	04/01/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	1,130	In-situ
SB02	10 - 12.2	04/01/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	1,570	In-situ
SB03	2 - 3.5	04/01/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.3	<50.3	<50.3	<50.3	<50.3	1,770	In-situ
SB03A	10 - 10.5	04/01/2020	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<50.3	<50.3	<50.3	<50.3	<50.3	520	In-situ
SB04	2 - 2.3	04/01/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	1,670	In-situ
SB04A	10 - 10.5	04/01/2020	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<50.1	<50.1	<50.1	<50.1	<50.1	358	In-situ
SB05	2 - 3.5	04/02/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	340	In-situ
SB05A	10 - 10.3	04/02/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<50.1	<50.1	<50.1	<50.1	<50.1	551	In-situ
SB06	2 - 2.5	04/02/2020	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	4,420	In-situ
SB06A	10 - 10.5	04/02/2020	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	919	In-situ
NMOCD Table	e 1 Closure Crit	eria	10	NE	NE	NE	50	NE	NE	NE	NE	100	600	
Maximum Ba	ckground Conc	entration	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	2,510]

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 NA - not analyzed NE - not established TPH - total petroleum hydrocarbons

Bold - indicates result exceeds the applicable regulatory standard

< - indicates result is below laboratory reporting limits

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



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ATTACHMENT 1: FORM C-141



Received by OCD: 9/4/2019 11:14:09 AM Received by OCD: 7/13/2020 1:32:57 PM

> 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 Page 14 of 172

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

Incident ID	NAB1927155176
District RP	2RP-5628
Facility ID	
Application ID	pAB1927154850

Release Notification

CLXJT-190904-C-1410

Responsible Party

Responsible Party	WPX Energy, Inc.	OGRID	246289
Contact Name	Jim Raley	Contact Telephone	575-689-7597
Contact email	james.raley@wpxenergy.com	Incident # (assigned by OCD)	NAB1927155176
Contact mailing add 88220	lress 5315 Buena Vista Dr., Carlsbad, NM		

Location of Release Source

Latitude 32.3318481

Longitude -104.090187 (NAD 83 in decimal degrees to 5 decimal places)

Site Name: Swearingen #001	Site Type SWD
Date Release Discovered 8/23/2019	API# (if applicable) 30-015-23816

Unit Letter	Section	Township	Range	County
J	04	238	28E	Eddy

Surface Owner: State Federal Tribal Private (Name: Anna F. Boyles)

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) 20	Volume Recovered (bbls) 15
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	Yes No
Condensate	Volume Released (bbls)	Volume Recovered (bbls)
Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release: Failure of injection line allowed release of 20 bbls of produced water to well pad surface. 15 bbls was recovered and returned to disposal. Line to be repaired.

$$bbl estimate = \frac{saturated soil volume (ft^{3})}{4.21(\frac{ft^{3}}{bbl equivalent})} * estimated soil porosity(\%) + recovered fluids (bbl)$$

Received by OCD: 7/13/202 Form C-141	0 1:32:57 PM		Page 15
	State of New Mexico	Incident ID	NAB1927155176
Page 2	Oil Conservation Division	District RP	2RP-5628
		Facility ID	
		Application ID	pAB1927154850
Was this a major release as defined by 19.15.29.7(A) NMAC?	If YES, for what reason(s) does the responsible par	ty consider this a major release?	>
If YES, was immediate no	tice given to the OCD? By whom? To whom? Wh	ien and by what means (phone, c	email, etc)?

Initial Response

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

 \boxtimes The source of the release has been stopped.

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

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

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

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

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:James Raley	Title:Environmental Specialist	
Signature: Olay	Date:8/28/2019	
email:james.raley@wpxenergy.com	Telephone: 575-689-7597	
OCD Only		
Received by: Amalia Bustamante	Date: 9/28/2019	

Re

Received by OCD: 7/13/2020 1:32:57 PM Form C-141 State of New Mexico

Oil Conservation Division

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Incident ID	NAB1927155176
District RP	2RP-5628
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?	(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.

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eceived by OCD: 7/13/2020 1:32 orm C-141	2:57 PM State of New Mexico	0		Page 17 of
ge 4	Oil Conservation Divis		Incident ID District RP	NAB1927155176 2RP-5628
			Facility ID	
			Application ID	
regulations all operators are required public health or the environment. T failed to adequately investigate and addition, OCD acceptance of a C-14 and/or regulations. Printed Name: Jim Raley Signature:	The acceptance of a C-141 report by remediate contamination that pose	y the OCD does not relieve a threat to groundwater, s	the operator of liability sh urface water, human health	ould their operations have or the environment. In deral, state, or local laws
email: James.Raley(<u>@wpxenergy.com</u>	Telephone:	575-689-7597	
OCD Only				
OCD Only Received by:		Date:		

Received by OCD: 7/13/2020 1:32:57 PM Form C-141 State of New Mexico

Oil Conservation Division

Incident ID	NAB1927155176
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Application ID	

Remediation Plan

<u>Remediation Plan Checklist</u>: 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 \boxtimes Estimated volume of material to be remediated \boxtimes 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: Jim Raley Title: **Environmental Specialist** Signature: Date: 7/13/2020 email: James.Raley@wpxenergy.com Telephone: 575-689-7597 **OCD Only** Received by: Date: Approved Approved with Attached Conditions of Approval Denied Deferral Approved Signature: Date:

•



LTE LT Environmental, Ir 25	r.	5 Carl	08 Wes Isbad, N	r onmenta t Stevens lew Mexic ngineering	Street co 88220		Identifier: PHS Date: OS/29/23/9 Project Name: Shearinger ISWD RP Number:				
	LITHO	LOGIC	/ SOII	SAMP	LING LO)G	Logged By: 1 Cantach Method: backhal				
Lat/Long: J2. 33/735 - 104. 089916 Field Screening: PLD, charles Hole Diameter: / Total Depth: 4/											
Comments:		41		/	L_{i}	1010-					
	delin	on Ur	1								
Moisture Content Chloride	Chloride Chloride Chloride Type Chlorid										
days 163 days 163		y N		0 1 1.5 2 3 (4) 5			SAND w/s: It, brown, odor ~Jsilfines SAND w/s: It, brown, odor ~Jsilfines SAND Jones SAND JONES SAN	X			
							can't breat caliche Seepert depth				

Lat/Long:	508 W Carlsbad	Field Screening:	liation OG	Identifier: PH-2 Project Name: Shearinger 15WD Logged By: L. Launberch Method: b-school Hole Diameter: 1 Total Depth: 1.5'
Moisture Content Chloride (ppm)	Vapor (ppm) Staining Sample #	Depth Sample (ft. bgs.) Depth	Ty	Lithology/Remarks
day 14760 7.8	835.2 N	$ \begin{array}{c} 0 \\ 0,5' \\ 1 \\ 1,5' \\ 2 \\ 3 \\ - \\ 4 \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ -$	Octor Octor - AR	Stable examplies 5 SHUD w/s.TE SAND w/s.TE (20/80) (myer robush) Deepert derth

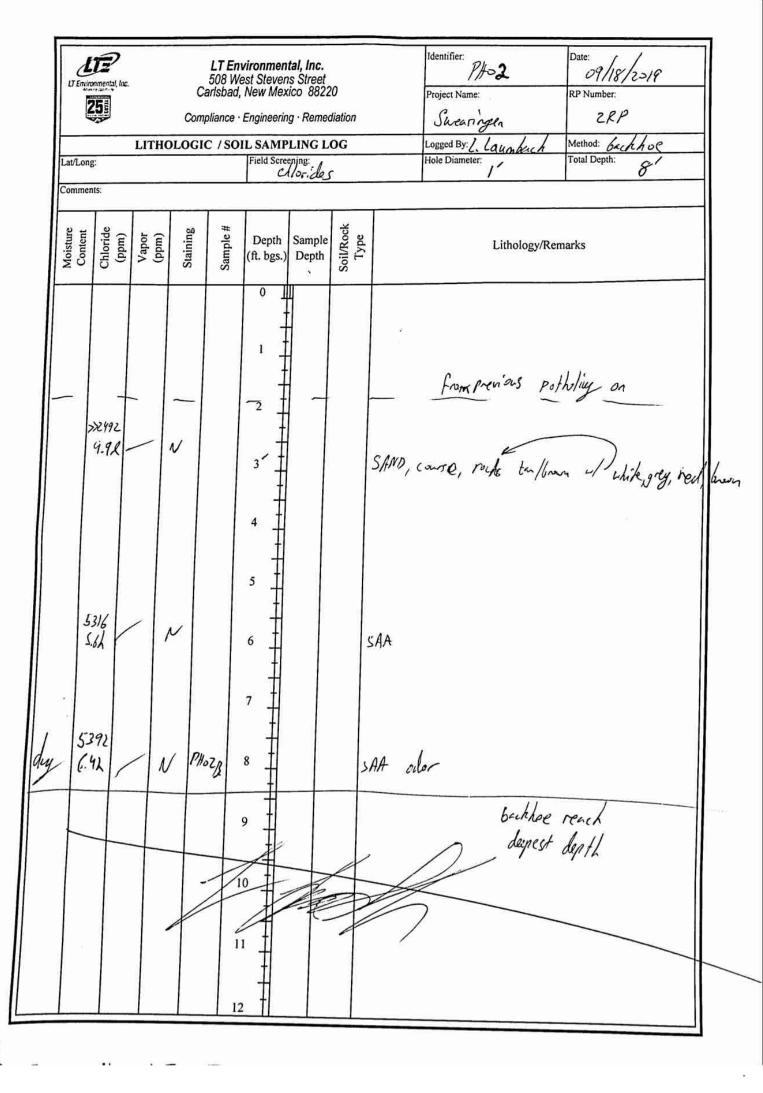
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	LT Environmenta 508 West Stevens Carlsbad, New Mexic Compliance · Engineering OGIC / SOIL SAMP Field Scree 24.09059	Street co 88220 g · Remediation	Identifier: PH3 Date: Project Name: Showringen 15WD Logged By: L. Launburd Method: brukhoe Hole Diameter: / Total Depth: 3.5'
Moisture Content Chloride (ppm) Vapor (ppm)	Staining Sample # (ft. bgs.)	Sample SouthRock Type	Lithology/Remarks
Seturado 2260 9.6 (3.8) Seturado 15,1840 53.6 (7.8)	0 1 1,5' 2 3 3,5' 4 5 6 7 8 9 10 11 12		SAND w/silt CALICHE layer depart depth

.

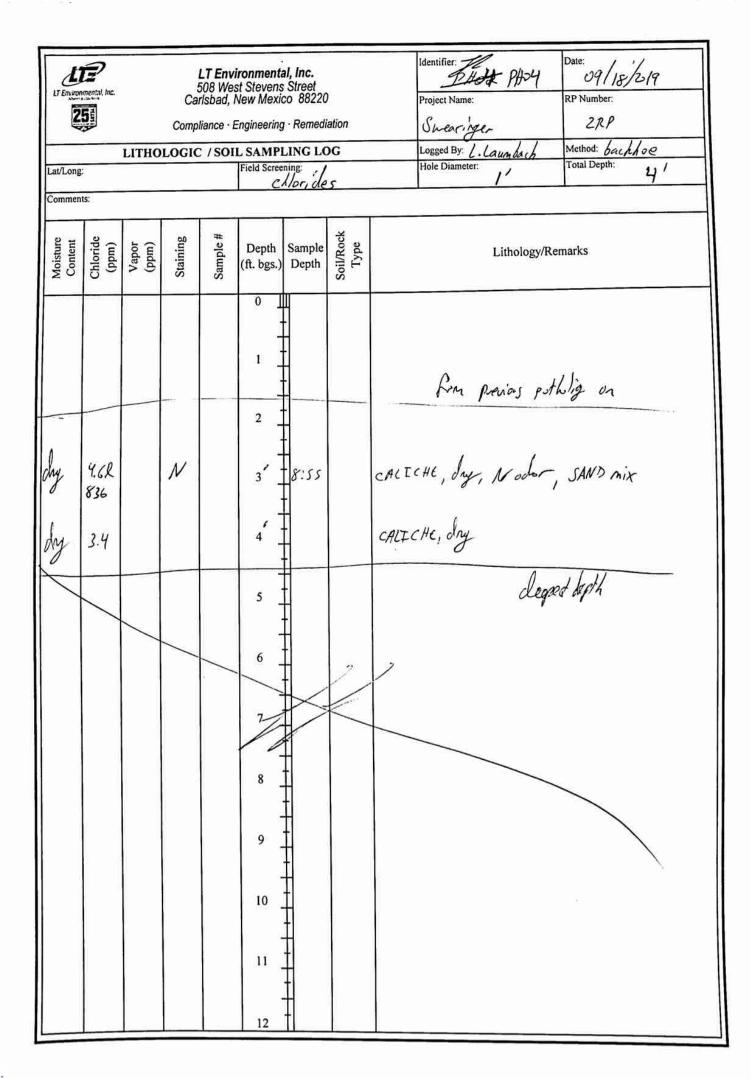
LITHOLO Lattong 32.31/9/3, -/64.00 Comments	LT Environmen 503 West Stever Carlsbad, New Mor Compliance - Engineerii OGIC / SOIL SAMI POOCC Inclusion	ns Street xico 88220 ng · Remediation PLING LOG	Identifier pH=Y Project Name RP Number Substitution 1 SWD Logged By 1. Latin frich Hole Diameter 1 1 1 1 1 1 1 1 1 1 1 1 1
Moisture Content (Thloride (ppm) Vapor (ppm)	10 명 11 문 가 다 나 hgs	Sample 202 2	Lithology/Remarks
	0 1 (.5 2 3 4 5 6 7 8 9 10 11 12		NYP SAND Sillor Notor AR lage rock deepest dyth

Lav/Long: Comments:	nental, Inc.	LITHO	Com	508 We arlsbad, pliance · l	rironment st Stevens New Mexi Engineering L SAMPI Field Scree	S Street co 88220 g · Remed LING LO		Identifier: Project Name: Shearingen Logged By: L. Laund Hole Diameter:	P#J	Date: 09/18/219 RP Number: 2RP Method: $backhoe$ Total Depth: 8.5'	
Moisture Content									Lithology/Remarks		
	.zh GR			PKK B	$ \begin{array}{c} 0 \\ 1 \\ 2 \\ 3 \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ - \\ -$			SAND, Noder SAA	From pro	rocks	gey, yelles, ten, red subren smooth those reach rest depth



L

		-				موجيد فاعداقهماه		_		T		
	LT Environm			5 Car Compl	508 Wes Isbad, I liance · E	ronmenta st Stevens New Mexic Engineering	Street co 88220 i · Remedi		Identifier: PHO3 (Project Name: Sweer, igg n		Date: 09/18/3/4 RP Number: 2/2/P	
		1	LITHO	LOGIC	SOI	L SAMPI)G		Logged By: L. Laun	buch	Method: backlog
	Lat/Long:					Field Scree	lon des			Hole Diameter:		Total Depth:
	Comment	S:					inner					•
	Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)						narks
fl/	demp		Vap	X X Stain	Samp				SAND	from previo	n.) po,	
						12	-					



LT Environn Adams	mental, Inc.		Ca	508 Wes rlsbad, N		al, Inc. s Street ico 88220 g · Remedi		Identifier: PH05 Project Name: Swearingen #1 SWD	Date: 11/23/19 RP Number: 2RP-5628				
Lat/Long:	32.33179		LOGIC	C / SOI	L SAMP	LING LO	OG	ps	Logged By: Anna Byers Hole Diameter: N/A	Method: Back Hoe Total Depth: 8 ft			
Comment	s: Chlorid	e concetrat	tions do n	ot include	40% correc	tion factor							
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	(ft)	Soil/Rock Type		Lithology/Remarks				
DRY DRY DRY	<120 <120 <120	0 0 0	NO NO NO	PH05		1	SP-SM	root fragi Brown, c root fragi Tan well-	ompact poorly-graded sand (n	n.) with silt; non-plastic,			
DRY	<120	0	NO		5	4.5	SW-SM		ompact well-graded sand (m.) zed clasts (non-uniform, subro				
DRY	<120	0	NO		6	6	SW-SM	-SM Brown, compact well-graded sand (m.) with silt and gravel to cobble sized clasts (non-uniform, subrounded); no odor, non-plast					
DRY	<120	0	NO	PH08A	8	8	SW-SM		ompact well-graded sand (m.) zed clasts (non-uniform, subro				
					9 10 11 12				Back Hoe Refusal				

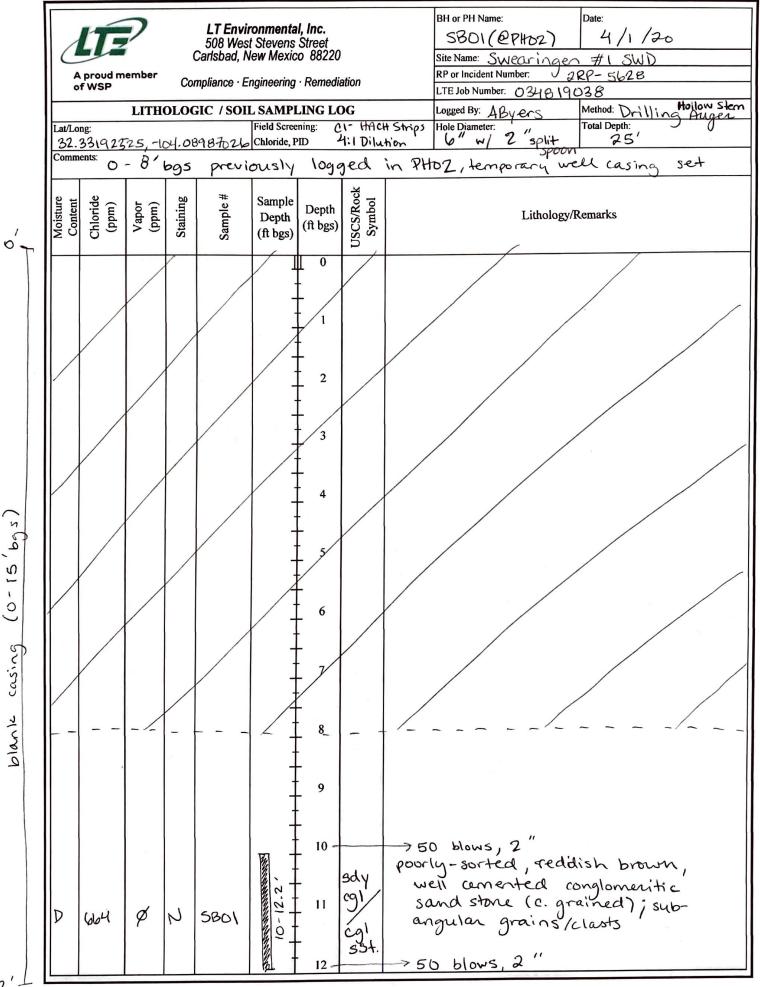
				LT Envi 508 Wes	ronment t Stevens	al, Inc. s Street			Identifier: PH06	Date: 11/23/19		
			Ca	rlsbad, N	lew Mexi	ico 88220 g · Remedi			Project Name: Swearingen #1 SWD	RP Number: 2RP-5628		
		LITHO	LOGI	C / SOII	L SAMP	LING LO)G		Logged By: Anna Byers	Method: Back Hoe		
Lat/Long:	32.33162	557N, 104	.0896743	8W	Field Scree				Hole Diameter: N/A	Total Depth: 8 ft		
Comment	s: Chloride	e concetrat	ions do n	ot include	PID & HA 40% correc	ACH Chlorid	le Test Strij	ps				
	1			I.								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth (ft)						
					0	+						
DRY	<120	0	NO	PH06	1	+ 1 +		Brown, co root fragr	ompact poorly-graded sand (n nents	n.) with silt; non-plastic,		
DRY	<120	0	NO		2	2	SP-SM	Brown, co root fragr	ompact poorly-graded sand (n nents	n.) with silt; non-plastic,		
DRY	<120	0	NO		3	3	Caliche		cemented, caliche with poorly casts; well-graded sandy mat			
DRY	120	0	NO		4	4			ompact well-graded sand (m.) zed clasts (non-uniform, subro			
					5	+ +- +-						
DRY	172	0	NO	PH06A	6	6	SW-SM		ompact well-graded sand (m.) zed clasts (non-uniform, subro			
					7	* +- +-		Brown o	ompact well-graded sand (m.)	with silt and gravel to		
DRY	<120	0	NO	PH06B	8	8			zed clasts (non-uniform, subro			
					9				Back Hoe Refusal			

	mental, Inc.		Ca	508 Wes rlsbad, l		al, Inc. s Street co 88220 g · Remedi			Identifier: PH07 Project Name: Swearingen #1 SWD	Date: 12/13/19 RP Number: 2RP-5628	
		LITHO	LOGIC	C / SOI	L SAMP	LING LO	OG		Logged By: Anna Byers	Method: Back Hoe	
Lat/Long:	32.33223	337N, 104	.0899915	2W	Field Scree	ening: ACH Chloric	le Test Stri	ns	Hole Diameter: N/A	Total Depth: 6 ft	
Comment	s: Chlorid	e concetrat	tions do n	ot include	40% correc		ie rese bui	20		1	
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	(11)	Soil/Rock Type		Lithology/Remarks		
DRY DRY	960 960	0	NO		1	1		root fragi Brown, c	ompact poorly-graded sand (n ments ompact poorly-graded sand (n ic, root fragments		
DRY	1480	0	NO		3	3	SP-SM		ompact poorly-graded sand (n	n.) with silt and gravel;	
DRY	1820	0	NO	PH07	4	4		non-plast Brown, c	ompact poorly-graded sand (n ic, root fragments ompact poorly-graded sand (n		
DRY	2088	0	NO	PH07A	6	6	SP-SM	non-plast	ic, root fragments Back Hoe Refusal		
					7 8 9 10 11				Back Hoe Kelusai		

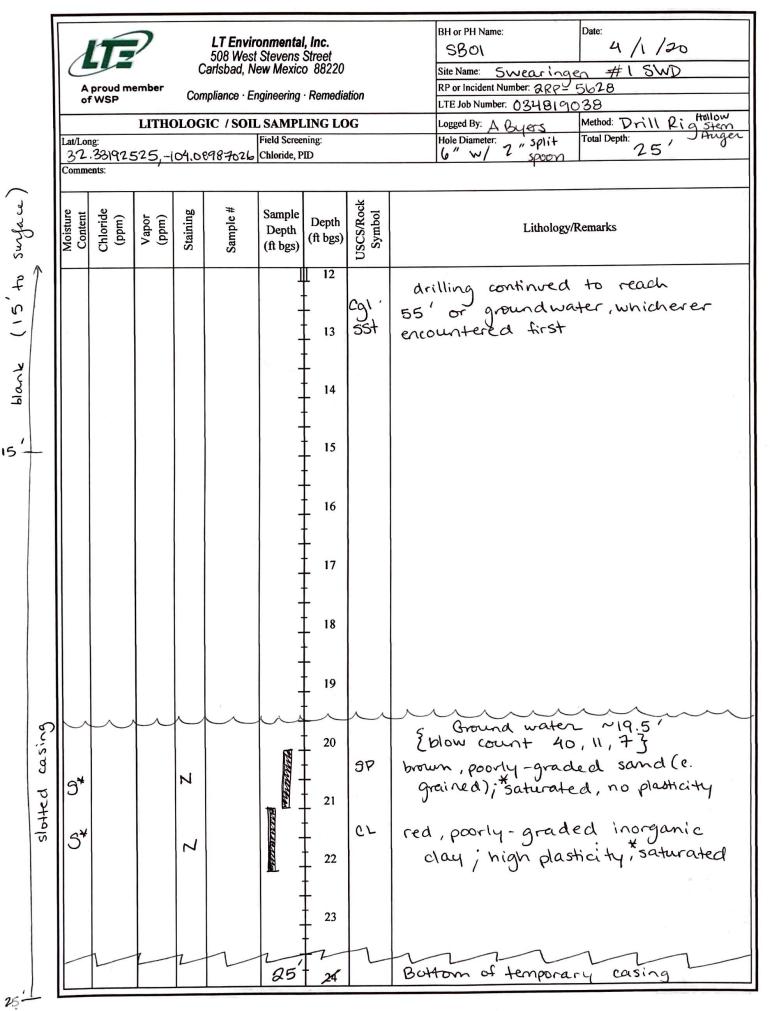
LT Environi Advances	nental, Inc.		Ca	508 Wes rlsbad, N	ronment t Stevens lew Mexi ingineering	s Śtreet co 88220		Identifier: PH08 Project Name: Swearingen #1 SWD	Date: 12/13/19 RP Number: 2RP-5628		
		LITHO	LOGIC	C / SOII	L SAMP	LING LO	OG		Logged By: Anna Byers	Method: Back Hoe	
Lat/Long:	32.33178	504N, 104	.0903430	2W	Field Scree	-	1- T Ct		Hole Diameter: N/A	Total Depth: 8 ft	
Comment	s: Chloride	e concetrat	ions do n	ot include	40% correc	CH Chlorid	le Test Stri	ps		<u> </u>	
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth (ft)	Soil/Rock Type		Lithology/Remarks		
DRY	<120	0	NO		0	- - - - 1	SP-SM	Brown, c root fragi	ompact poorly-graded sand (n nents	n.) with silt; non-plastic,	
DRY	<120	0	NO		2	2	SP-SM	Brown, c root fragi	ompact poorly-graded sand (n nents	n.) with silt; non-plastic,	
DRY	<120	0	NO		3	3	Caliche		-cemented, caliche with poorly e casts; well-graded sandy mat		
DRY	<120	0	NO		4	4	SW-SM		ompact well-graded sand (m.) zed clasts (non-uniform, subro		
DRY	<120	0	NO		5	5	SW-SM		ompact well-graded sand (m.) zed clasts (non-uniform, subro		
DRY	<120	0	NO		6	6	SW-SM		ompact well-graded sand (m.) zed clasts (non-uniform, subro		
DRY	204	0	NO	PH08	7	7	SW-SM		ompact well-graded sand (m.) zed clasts (non-uniform, subro		
DRY	388	0	NO	PH08A	8	8	SW-SM		ompact well-graded sand (m.) zed clasts (non-uniform, subro		
	200	5	110		9 9 10 11 12				Back Hoe Refusal		

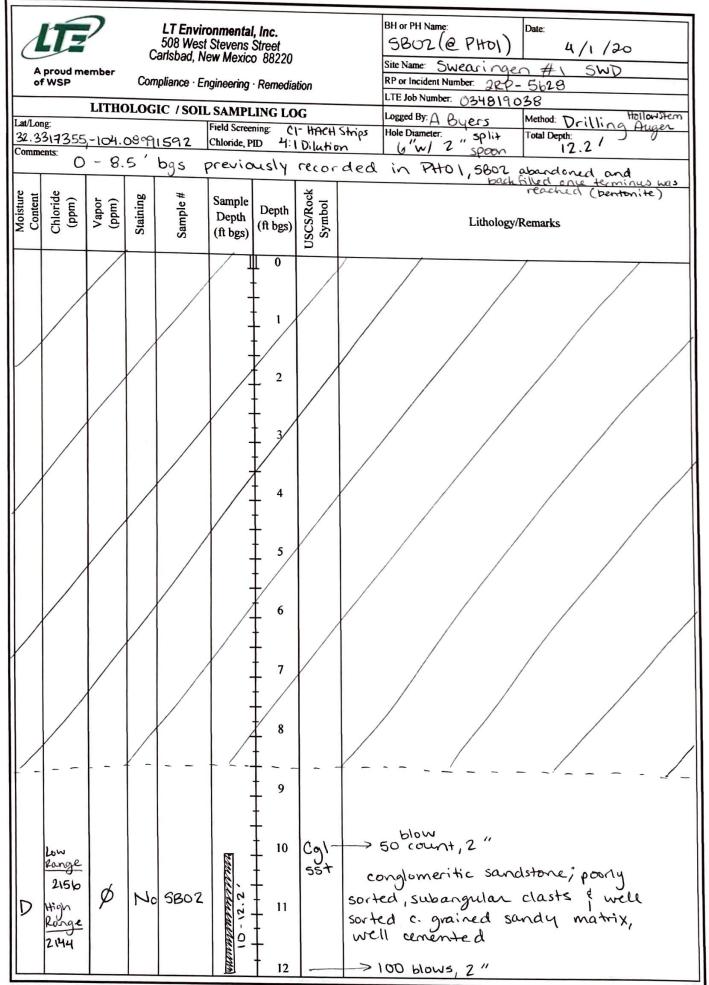
	nental, Inc.			508 Wes	ronment st Stevens New Mexi	al, Inc. s Street co 88220)		Identifier: PH09 Project Name: Swearingen #1 SWD	Date: 12/13/19 RP Number: 2RP-5628
Ş			Comp	liance · E	ngineering	g · Remed	iation			
		LITHO	LOGIC	C / SOI	L SAMP	LING LO	OG		Logged By: Anna Byers	Method: Back Hoe
Lat/Long:	32.33146	52N, 104.0)900213W	V	Field Scree	e	1 75 4 64 1		Hole Diameter: N/A	Total Depth: 9 ft
Comment	s: Chloride	e concetrat	ions do no	ot include	40% correc	CH Chlorid	ie Test Strij	ps		
				1		<u> </u>		1		
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)	Sample Depth (ft)	Soil/Rock Type		Lithology/Ren	narks
					0					
DRY	268	0	NO		1 _ -	1		root fragr		
DRY	756	0	NO	PH09	2	2		root fragr		
DRY	756	0	NO		³ -	3	Caliche		cemented, caliche with poorly e casts; well-graded sandy mat	
DRY	388	0	NO		4	4	SW-SM		ompact well-graded sand (m.) zed clasts (non-uniform, subro	
DRY	432	0	NO		5	5	SW-SM		ompact well-graded sand (m.) zed clasts (non-uniform, subro	
DRY	480	0	NO		6	6	SW-SM		ompact well-graded sand (m.) zed clasts (non-uniform, subro	
DRY	432	0	NO		7	7	SW-SM		ompact well-graded sand (m.) zed clasts (non-uniform, subro	
DRY	432	0	NO		8	8	SW-SM	cobble siz	ompact well-graded sand (m.) zed clasts (non-uniform, subro	ounded); no odor, non-plastic
DRY	304	0	NO	PH09A	9	9	SW-SM		ompact well-graded sand (m.) zed clasts (non-uniform, subro Back Hoe Refusal	
					10					
					11	+ + +				
					12					

	mental, Inc.		Ca	LT Environmental, Inc. 508 West Stevens Street arlsbad, New Mexico 88220 pliance · Engineering · Remediation					Identifier: BG01 Project Name: Swearingen #1 SWD	Date: 11/23/19 RP Number: 2RP-5628
LITHOLOGIC / SOIL SAMPLING LOG									Logged By: Anna Byers	Method: Back Hoe
Lat/Long:	282N, 104	.0896210	2W	Field Screening: PID & HACH Chloride Test Strips				Hole Diameter: N/A	Total Depth: 6 ft	
Comments: Chloride concetrations do not include 40% correction factor										
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Depth (ft. bgs.)		Soil/Rock Type		Lithology/Rer	narks
 P ° DRY DRY DRY DRY 	480 820 1200 1116 480	A A A A B B C <t< th=""><th>NO NO NO NO</th><th>BG01</th><th>0</th><th>- 1 - 2 - 3</th><th>SP-SM SP-SM Caliche SW-SM</th><th>root fragi Brown, c root fragi Tan well- carbonate Brown, c cobble si</th><th>ompact poorly-graded sand (n ments -cemented, caliche with poorly e casts; well-graded sandy mat ompact well-graded sand (m.) zed clasts (non-uniform, subro</th><th>n.) with silt; non-plastic, y sorted, subrounded rix with silt and gravel to punded); no odor, non-plastic</th></t<>	NO NO NO NO	BG01	0	- 1 - 2 - 3	SP-SM SP-SM Caliche SW-SM	root fragi Brown, c root fragi Tan well- carbonate Brown, c cobble si	ompact poorly-graded sand (n ments -cemented, caliche with poorly e casts; well-graded sandy mat ompact well-graded sand (m.) zed clasts (non-uniform, subro	n.) with silt; non-plastic, y sorted, subrounded rix with silt and gravel to punded); no odor, non-plastic
					11					



12'





of Lat/Lon 32.34	e: 315683	LITHO	Com DLOG	508 West arlsbad, Ne apliance · En IC / SOIL	ew Mexico gineering ·	treet 88220 Remedia ING LC					
Comme		ninus	wa	s reach	ed, th			was abandonned and backfilled with			
Moisture Content	υ	Vapor (ppm)	Staining	Sample #	Sample	Depth (ft bgs)	bentonite				
D	1744 50B	ø	20	5803	1 5-5.5 / 2-3.5/	0 1 2 3 4 5 6 7 8	cche	7/14/40 poorly-sorted, well-cemented caliche j sandy matrix (c. grained) with sub-angular to sub-rounded cobble clasts 50 blows (16 ")			
D	N∕A*	ø	No	S&03A	, 2.01 - 01 - + + + + + + + + + + + + + + + + + + +	- 8 - 9 - 10 - 11 - 12	cg1 557	100, 100 (3") poorly-sorted reddish brown, well cemented conglomeritic sandstone (c. grained); sub-angular clasts *N/A not enough_sample and package for lab → only packaged for lab analysies			

Lat/Lo 32.1 Comm On s	3317772 nents: 2 termi	LITH 25,-104	Con OLOC 1.090 Vas	508 Wesi Carlsbad, N mpliance · El GIC / SOII 17951 reached	onmental, li Stevens Str ew Mexico & ngineering · R SAMPLIN Field Screening Chloride, PID SB04 w Sample	reet 88220 Remedia NG LO g: Hac g: Hac 4	nned & backfilled W/ bentonite	
Content Content	Chloride (ppm)	Vapor (ppm)	c Staining	Sample #		1 2 3		Lithology/Remarks 20/50 (4") pourly sorted caliche with cobble sized clasts, subrounded; sandy (c. grained) matrix
D	720	Ø	20	1	5 - 5.5 '	4 5 6 7 8	cche	10/50 (6")
D	312	Ø	20	5804А	, 5.01 - 01 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	9 10 11 12	८५१ ऊर्भ	50 blows, 6" conglomentic sandstone, poorly Softed, subangular cobble sized to gravel sized clasts; well cemented

Lat/Lo 32.1 Comm	332046 ments:	LITH 5,-102	Con OLOC 1.089	92708	Stevens ew Mexic ngineering SAMPI Field Scree Chloride, F	Street o 88220 · Remedia LING LC ming: C ₁ · PID 4	ation DG Hach S 11 Dilu	ation 6" w/ 2" spoon 10.3
11								rehoie was abandonned backfilled w/ bentonite Lithology/Remarks
D	196	Ø	No	JE05	annarur mrana 8 - 3,5 '		SW-SM	5/11/19 (6") brown Well-graded sand (e.) with sill andgravel; no plasticity
m	348	Ø	20		$5 \sim 10.5^{\circ}$	- 5 - 6 - 7 - 8	cche	5/5/14(6") poorly-cemented, poorly sorted caliche with gravel sized clasts
Μ	424	Ø	20	5805A	1010.3	9 10 11 11	s) sst	50 blows (4") conglomeritic sandstone, poorly sorted sandy matrix (c.) with sub angular clasts gravel - cobole sized; well cemented

Lat/Lo 32.3 Comm	<u>331826</u> ients: Pa ie fern	LITH	Cor 01.00 4.08 4.08	508 Wesi Carlsbad, N mpliance Er GIC / SOII <u>279472</u> dead s reach	ronmental, Inc Stevens Stree ew Mexico 88 ngineering · Ren L SAMPLING Field Screening: Chloride, PID Vegetation _ & SBDL	et 220 nediation E LOG C1 ⁻ HAG 4:1 T V: ar	CH Strips Dilution Dund SB1 abandon	LTE Job Number: 0348 9 Logged By: A Byers Hole Diameter:	22P-5628 U38 Method: Drilling Hollowsten Auger Total Depth: 10.5
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Ъ	Symbol	Lithology	/Remarks
DDD	3704	Ø	Nº	5806	5 - (s, S') + + + + + + + + + + + + + + + + + + +	0 1 2 3 4 5 5 7 3	he c siz sw po	31/35/20 (6 aliche with gr ed clasts (sub angular, poort	avel to cobble
D	720	Ą	No	5606A		0 (g) 1 2	i Sot Co	50 blows 5" nglomeritic sat well-cemente	



Analytical Report 635241

for

LT Environmental, Inc.

Project Manager: Chris McKisson

Swearingen #1 SWD

08/24/2019

03-SEP-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), 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)



03-SEP-19

Project Manager: Chris McKisson LT Environmental, Inc. 4600 W. 60th Avenue Arvada, CO 80003

Reference: XENCO Report No(s): 635241 Swearingen #1 SWD Project Address:

Chris McKisson:

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) 635241. 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. 635241 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Vramer

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 635241

LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	08-27-19 12:50	0.5 ft	635241-001
SS02	S	08-27-19 13:00	0.5 ft	635241-002



CASE NARRATIVE

Client Name: LT Environmental, Inc. Project Name: Swearingen #1 SWD

 Project ID:
 08/24/2019

 Work Order Number(s):
 635241

TORIES

Report Date: 03-SEP-19 Date Received: 08/27/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments: Batch: LBA-3100232 BTEX by EPA 8021B Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Project Id: 08/24/2019 **Contact:** Chris McKisson

Project Location:

Certificate of Analysis Summary 635241

LT Environmental, Inc., Arvada, CO Project Name: Swearingen #1 SWD

Date Received in Lab: Tue Aug-27-19 02:30 pm Report Date: 03-SEP-19 Project Manager: Jessica Kramer

	Lab Id:	635241-0	01	635241-0	002		
	Field Id:	SS01		SS02			
Analysis Requested	Depth:	0.5- ft		0.5- ft			
	Matrix:	SOIL		SOIL			
	Sampled:	Aug-27-19 1	2:50	Aug-27-19	13:00		
BTEX by EPA 8021B	Extracted:	Aug-28-19 1	6:00	Aug-28-19	16:00		
SUB: T104704400-18-16	Analyzed:	Aug-29-19 2	20:30	Aug-29-19	20:50		
	Units/RL:	mg/kg	RL	mg/kg	RL		
Benzene		< 0.00198	0.00198	< 0.00200	0.00200		
Toluene		0.00248	0.00198	< 0.00200	0.00200		
Ethylbenzene		< 0.00198	0.00198	< 0.00200	0.00200		
m,p-Xylenes		< 0.00397	0.00397	< 0.00400	0.00400		
o-Xylene		< 0.00198	0.00198	< 0.00200	0.00200		
Total Xylenes		< 0.00198	0.00198	< 0.00200	0.00200		
Total BTEX		0.00248	0.00198	< 0.00200	0.00200		
Chloride by EPA 300	Extracted:	Aug-29-19 (9:15	Aug-29-19	09:15		
SUB: T104704400-18-16	Analyzed:	Aug-29-19 1	1:25	Aug-29-19	11:31		
	Units/RL:	mg/kg	RL	mg/kg	RL		
Chloride		16500	100	16700	101		
TPH by SW8015 Mod	Extracted:	Aug-28-19 1	4:00	Aug-28-19	14:00		
SUB: T104704400-18-16	Analyzed:	Aug-29-19 1	1:24	Aug-29-19	11:44		
	Units/RL:	mg/kg	RL	mg/kg	RL		
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<50.0	50.0		
Diesel Range Organics (DRO)		<50.0	50.0	<50.0	50.0		
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<50.0	50.0		
Total TPH		<50.0	50.0	<50.0	50.0		
Total GRO-DRO		<50.0	50.0	<50.0	50.0		

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

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

fession kenner

Jessica Kramer Project Assistant

Final 1.000



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Certificate of Analytical Results 635241

LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id: SS01 Lab Sample Id: 635241-001		Matrix: Date Collec	Soil cted: 08.27.19 12.50		Date Received:08.2 Sample Depth:0.5		80
Analytical Method: Chloride by EP	A 300				Prep Method: E30	00P	
Tech: CHE					% Moisture:		
Analyst: CHE		Date Prep:	08.29.19 09.15		Basis: We	t Weight	
Seq Number: 3100132		-			SUB: T104704400	-18-16	
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16500	100	mg/kg	08.29.19 11.25		20

Analytical Method: TPH by SW801 Tech: DVM Analyst: ARM Seq Number: 3100068	15 Mod	Date Prep	o: 08.28.	19 14.00	9 E	Prep Method: SW 6 Moisture: Basis: We SUB: T104704400	t Weight	
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0		mg/kg	08.29.19 11.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0		mg/kg	08.29.19 11.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0		mg/kg	08.29.19 11.24	U	1
Total TPH	PHC635	<50.0	50.0		mg/kg	08.29.19 11.24	U	1
Total GRO-DRO	PHC628	<50.0	50.0		mg/kg	08.29.19 11.24	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	88	%	70-135	08.29.19 11.24		
o-Terphenyl		84-15-1	87	%	70-135	08.29.19 11.24		



LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id: SS01 Lab Sample Id: 635241-001		Matrix: Date Collecte	Soil d: 08.27.19 12.50	-	Date Received:08 Sample Depth: 0)
Analytical Method: BTEX by EPA 8 Tech: KTL	021B				Prep Method: SV % Moisture:	W5030B	
Analyst: KTL Seq Number: 3100232		Date Prep:	08.28.19 16.00]		et Weight 00-18-16	
Parameter	Cas Number	Result R	L	Units	Analysis Date	Flag	Dil

Cas Number	Kesun	KL		Units	Analysis Date	riag	DII
71-43-2	< 0.00198	0.00198		mg/kg	08.29.19 20.30	U	1
108-88-3	0.00248	0.00198		mg/kg	08.29.19 20.30		1
100-41-4	< 0.00198	0.00198		mg/kg	08.29.19 20.30	U	1
179601-23-1	< 0.00397	0.00397		mg/kg	08.29.19 20.30	U	1
95-47-6	< 0.00198	0.00198		mg/kg	08.29.19 20.30	U	1
1330-20-7	< 0.00198	0.00198		mg/kg	08.29.19 20.30	U	1
	0.00248	0.00198		mg/kg	08.29.19 20.30		1
	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
	540-36-3	100	%	70-130	08.29.19 20.30		
	460-00-4	117	%	70-130	08.29.19 20.30		
	71-43-2 108-88-3 100-41-4 179601-23-1 95-47-6	71-43-2 <0.00198	71-43-2 <0.00198	71-43-2 <0.00198	71-43-2 <0.00198	71-43-2 <0.00198	71-43-2 <0.00198 0.00198 mg/kg 08.29.19 20.30 U 108-88-3 0.00248 0.00198 mg/kg 08.29.19 20.30 U 100-41-4 <0.00198



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Certificate of Analytical Results 635241

LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id: SS02 Lab Sample Id: 635241-002		Matrix: Date Collec	Soil cted: 08.27.19 13.00		Date Received:08.2 Sample Depth: 0.5		0
Analytical Method: Chloride by EPA	A 300				Prep Method: E30)0P	
Tech: CHE					% Moisture:		
Analyst: CHE		Date Prep:	08.29.19 09.15		Basis: We	t Weight	
Seq Number: 3100132					SUB: T104704400	-18-16	
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	16700	101	mg/kg	08.29.19 11.31		20

Analytical Method:TPH by SW801Tech:DVMAnalyst:ARMSeq Number:3100068	5 Mod	Date Prej	p: 08.28	19 14.00	9 E	Prep Method: SW 6 Moisture: Basis: We SUB: T104704400	t Weight	
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0		mg/kg	08.29.19 11.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	< 50.0	50.0		mg/kg	08.29.19 11.44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	< 50.0	50.0		mg/kg	08.29.19 11.44	U	1
Total TPH	PHC635	< 50.0	50.0		mg/kg	08.29.19 11.44	U	1
Total GRO-DRO	PHC628	< 50.0	50.0		mg/kg	08.29.19 11.44	U	1
Surrogate 1-Chlorooctane o-Terphenyl		Cas Number 111-85-3 84-15-1	% Recovery 88 88	Units % %	Limits 70-135 70-135	Analysis Date 08.29.19 11.44 08.29.19 11.44	Flag	



LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id: SS02 Lab Sample Id: 635241-002		Matrix: Date Collecte	Soil d: 08.27.19 13.00	-	Date Received: Sample Depth: (0
Analytical Method: BTEX by EPA	8021B	Due Concete			Prep Method: S		
Tech: KTL				ç	% Moisture:		
Analyst: KTL		Date Prep:	08.28.19 16.00	I	Basis: V	Vet Weight	
Seq Number: 3100232				S	SUB: T1047044	00-18-16	
Parameter	Cas Number	Result F	Ł	Units	Analysis Date	e Flag	Dil

	Cas Nulliber	Kesuit	KL		Units	Analysis Date	riag	DII
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	08.29.19 20.50	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	08.29.19 20.50	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	08.29.19 20.50	U	1
m,p-Xylenes	179601-23-1	< 0.00400	0.00400		mg/kg	08.29.19 20.50	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	08.29.19 20.50	U	1
Total Xylenes	1330-20-7	< 0.00200	0.00200		mg/kg	08.29.19 20.50	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	08.29.19 20.50	U	1
			%					
Surrogate		Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	92	%	70-130	08.29.19 20.50		
4-Bromofluorobenzene		460-00-4	119	%	70-130	08.29.19 20.50		



Flagging Criteria

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

SMP Clie	ent Sample	BLK	Method Blank	
BKS/LCS	S Blank Spike/Laboratory Control Sample	BKSD/LCSD	Blank Spike Duplicate/Labo	ratory 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



BORATORIES

LT Environmental, Inc.

Swearingen #1 SWD

Analytical Method:	Chloride by EPA 3	00						P	rep Meth	od: E300	0P	
Seq Number:	3100132			Matrix:	Solid				Date Pr	ep: 08.2	9.19	
MB Sample Id:	7685222-1-BLK		LCS Sat	nple Id:	7685222-	1-BKS		LCS	D Sample	e Id: 7685	5222-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	Flag
Chloride	< 0.858	250	258	103	256	102	90-110	1	20	mg/kg	08.29.19 10:44	
Analytical Method: Seq Number: Parent Sample Id:	Chloride by EPA 3 3100132 635165-001	00		Matrix: nple Id:		01 S			rep Meth Date Pr D Sample	rep: 08.2		
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	Flag
Chloride	7.51	252	267	103	262	101	90-110	2	20	mg/kg	08.29.19 11:02	
Analytical Method:	Chloride by EPA 3	00						P	ren Meth	od: E30	0P	

Analytical Method:	Chloride by EPA 30	JU						Pi	ep Meth	od: E30	OP	
Seq Number:	3100132			Matrix:	Soil				Date Pr	ep: 08.2	9.19	
Parent Sample Id:	635362-013		MS Sar	nple Id:	635362-01	3 S		MS	D Sample	e Id: 635	362-013 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	Flag
Chloride	25.0	250	272	99	272	99	90-110	0	20	mg/kg	08.29.19 12:24	

Analytical Method:	TPH by S	W8015 M	od]	Prep Method	i: SW8	3015P	
Seq Number:	3100068				Matrix:	Solid				Date Prep	p: 08.2	8.19	
MB Sample Id:	7685193-1	-BLK		LCS Sar	nple Id:	7685193-	1-BKS		LC	SD Sample	ld: 768	5193-1-BSD	
Parameter		MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPE	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarb	ons (GRO)	<15.0	1000	1030	103	988	99	70-135	4	20	mg/kg	08.29.19 04:25	
Diesel Range Organics	(DRO)	<25.0	1000	938	94	917	92	70-135	2	20	mg/kg	08.29.19 04:25	
Surrogate		MB %Rec	MB Flag		CS Rec	LCS Flag	LCSI %Re			Limits	Units	Analysis Date	
1-Chlorooctane		86		1	19		118		7	0-135	%	08.29.19 04:25	
o-Terphenyl		83		1	08		101		2	0-135	%	08.29.19 04:25	

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

LCS = Laboratory Control Sample A = Parent Result C = MS/LCS Result E = MSD/LCSD Result MS = Matrix Spike B = Spike Added D = MSD/LCSD % Rec





QC Summary 635241

LT Environmental, Inc.

Swearingen #1 SWD

Analytical Method:	TPH by S	W8015 M	od						I	Prep Method	: SW8	8015P	
Seq Number:	3100068				Matrix:	Soil				Date Prep	: 08.2	8.19	
Parent Sample Id:	635225-00	1		MS Sar	nple Id:	635225-00	01 S		M	SD Sample I	d: 6352	225-001 SD	
Parameter		Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarb	ons (GRO)	<15.0	999	972	97	970	97	70-135	0	20	mg/kg	08.29.19 05:24	
Diesel Range Organics	(DRO)	1200	999	2000	80	2010	81	70-135	0	20	mg/kg	08.29.19 05:24	
Surrogate					/IS Rec	MS Flag	MSD %Ree		-	Limits	Units	Analysis Date	
1-Chlorooctane				1	20		113		7	0-135	%	08.29.19 05:24	
o-Terphenyl				1	16		111		7	0-135	%	08.29.19 05:24	

Analytical Method: Seq Number: MB Sample Id:	BTEX by EPA 802 3100232 7685217-1-BLK	1B	LCS San	Matrix: nple Id:	Solid 7685217-	1-BKS			Prep Metho Date Pre SD Sample	p: 08.2	5030B 8.19 5217-1-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	0.0873	87	0.0969	97	70-130	10	35	mg/kg	08.29.19 11:50	
Toluene	< 0.000456	0.100	0.0886	89	0.0992	99	70-130	11	35	mg/kg	08.29.19 11:50	
Ethylbenzene	< 0.000565	0.100	0.0955	96	0.108	108	70-130	12	35	mg/kg	08.29.19 11:50	
m,p-Xylenes	< 0.00101	0.200	0.186	93	0.210	105	70-130	12	35	mg/kg	08.29.19 11:50	
o-Xylene	< 0.000344	0.100	0.0962	96	0.109	109	70-130	12	35	mg/kg	08.29.19 11:50	
Surrogate	MB %Rec	MB Flag			LCS Flag	LCSD %Rec			Limits	Units	Analysis Date	
1,4-Difluorobenzene	98		9	97		101		7	0-130	%	08.29.19 11:50	
4-Bromofluorobenzene	95		1	09		111		7	0-130	%	08.29.19 11:50	

Analytical Method: Seq Number: Parent Sample Id:	BTEX by EPA 802 3100232 635221-001	1B	MS San	Matrix: nple Id:		01 S			Prep Metho Date Pre SD Sample	p: 08.2	5030B 28.19 221-001 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPE) RPD Limit	Units	Analysis Date	Flag
Benzene	< 0.00200	0.0998	0.0673	67	0.0471	48	70-130	35	35	mg/kg	08.29.19 12:30	Х
Toluene	0.00123	0.0998	0.0724	71	0.0514	51	70-130	34	35	mg/kg	08.29.19 12:30	Х
Ethylbenzene	0.000656	0.0998	0.0774	77	0.0532	53	70-130	37	35	mg/kg	08.29.19 12:30	XF
m,p-Xylenes	0.00174	0.200	0.151	75	0.102	51	70-130	39	35	mg/kg	08.29.19 12:30	XF
o-Xylene	0.000825	0.0998	0.0804	80	0.0536	53	70-130	40	35	mg/kg	08.29.19 12:30	XF
Surrogate				1S Rec	MS Flag	MSD %Rec		-	Limits	Units	Analysis Date	
1,4-Difluorobenzene			1	03		102			70-130	%	08.29.19 12:30	
4-Bromofluorobenzene			1	18		114		-	70-130	%	08.29.19 12:30	

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

LCS = Laboratory Control Sample A = Parent Result C = MS/LCS Result E = MSD/LCSD Result MS = Matrix Spike B = Spike Added D = MSD/LCSD % Rec

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Instant TX (281) Advance Unit X Instant TX (281) Advance Unit X Instant											
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Manager Chris McKisson Mainau, TX (24) 244-240 Dalas, TX (24) 982-3403 San Antonio, TX (21) 593-334 Mainau, TX (24) 594-324 Mainau, TX (24) 594-5440 El Pas, TX (24) 594-5440 Mainau, TX (24) 594-546 Mainau, TX (24) 594-546 Mainau, TX (24) 594-546 Ma										1	
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	NO: VOUVIII	Work Order	rsinda		5						

Final 1.000



Inter-Office Shipment

Page 1 of 1

IOS Number 46991

Date/Time: 08/27/19 15:46

Created by: Elizabeth Mcclellan

Please send report to: Jessica Kramer

Lab# From: Carlsbad

Lab# To: Midland

Air Bill No.: 776092467348

Delivery Priority:

Address: 1089 N Canal Street

E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	РМ	Analytes	Sign
635241-001	S	SS01	08/27/19 12:50	SW8015MOD_NM	TPH by SW8015 Mod	09/03/19	09/10/19	JKR	GRO-DRO PHCC10C28 PH	
635241-001	S	SS01	08/27/19 12:50	SW8021B	BTEX by EPA 8021B	09/03/19	09/10/19	JKR	BR4FBZ BZ BZME EBZ X	
635241-001	S	SS01	08/27/19 12:50	E300_CL	Chloride by EPA 300	09/03/19	02/23/20	JKR	CL	
635241-002	S	SS02	08/27/19 13:00	SW8021B	BTEX by EPA 8021B	09/03/19	09/10/19	JKR	BR4FBZ BZ BZME EBZ X	
635241-002	S	SS02	08/27/19 13:00	E300_CL	Chloride by EPA 300	09/03/19	02/23/20	JKR	CL	
635241-002	S	SS02	08/27/19 13:00	SW8015MOD_NM	TPH by SW8015 Mod	09/03/19	09/10/19	JKR	GRO-DRO PHCC10C28 PH	

Inter Office Shipment or Sample Comments:

Relinquished By:

Elizabeth McClellan

Date Relinquished: 08/27/2019

Received By:

Brianna Teel

Date Received: 08/28/2019 11:29

Cooler Temperature: 2.3



ABORATORIES

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland IOS #: 46991

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

Sent By:	Elizabeth McClellan	Date Sent:	08/27/2019 03:46 PM
Received By:	Brianna Teel	Date Received:	08/28/2019 11:29 AM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	2.3
#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:

Contact:

Nonconformance Documentation

Contacted by :

Date:

Checklist reviewed by: Brittle Ta Brianna Teel

Date: 08/28/2019



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc. Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 08/27/2019 02:30:00 PM Temperature Measuring device used : T-NM-007 Work Order #: 635241 Comments Sample Receipt Checklist 1 #1 *Temperature of cooler(s)? #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 Yes #16 All samples received within hold time?

#17 Subcontract of sample(s)?

#18 Water VOC samples have zero headspace?

* 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: 08/27/2019

Subbed to Xenco Midland.

Yes

N/A

Checklist reviewed by: Jession Vramer

Jessica Kramer

Date: 08/28/2019

for

LT Environmental, Inc.

Project Manager: Chris McKisson

Swearingen 1 SWD

34819038

30-AUG-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), 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)

Page 1 of 17

Final 1.000



30-AUG-19

Project Manager: Chris McKisson LT Environmental, Inc. 4600 W. 60th Avenue Arvada, CO 80003

Reference: XENCO Report No(s): 635577 Swearingen 1 SWD Project Address:

Chris McKisson:

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) 635577. 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. 635577 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Vramer

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 635577

LT Environmental, Inc., Arvada, CO

Swearingen 1 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH01	S	08-29-19 10:20	1.5 ft	635577-001
PH01A	S	08-29-19 11:25	4 ft	635577-002
PH02	S	08-29-19 10:00	0.5 ft	635577-003
PH02A	S	08-29-19 12:30	1.5 ft	635577-004
PH03	S	08-29-19 12:55	1.5 ft	635577-005
PH03A	S	08-29-19 13:00	3.0 ft	635577-006
PH04	S	08-29-19 13:30	1.5 ft	635577-007



CASE NARRATIVE

Client Name: LT Environmental, Inc. Project Name: Swearingen 1 SWD

 Project ID:
 34819038

 Work Order Number(s):
 635577

ORATORIES

Report Date:30-AUG-19Date Received:08/29/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Project Id:34819038Contact:Chris McKissonProject Location:

Certificate of Analysis Summary 635577

LT Environmental, Inc., Arvada, CO Project Name: Swearingen 1 SWD

Date Received in Lab:Thu Aug-29-19 03:20 pmReport Date:30-AUG-19Project Manager:Jessica Kramer

	Lab Id:	635577-0	01	635577-0	02	635577-0	03	635577-0	04	635577-0	05	635577-0	06
Analysis Requested	Field Id:	PH01	PH01		PH01A		PH02			PH03		PH03A	
Analysis Kequestea	Depth:	1.5- ft		4- ft		0.5- ft		1.5- ft		1.5- ft		3.0- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Aug-29-19	0:20	Aug-29-19	1:25	Aug-29-19	0:00	Aug-29-19 1	2:30	Aug-29-19	12:55	Aug-29-19 1	3:00
Chloride by EPA 300	Extracted:	Aug-29-19	15:57	Aug-29-19 1	5:57	Aug-29-19 1	5:57	Aug-29-19 1	5:57	Aug-29-19	15:57	Aug-29-19 1	5:57
	Analyzed:	Aug-29-19	18:04	Aug-29-19 1	7:23	Aug-29-19 1	7:30	Aug-29-19 1	7:36	Aug-29-19	17:42	Aug-29-19 1	7:48
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		15900 D	10000	15500 D	10000	13700 D	9940	15800 D	9960	2760	198	14300 D	9980

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

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

fession kramer

Jessica Kramer Project Assistant

Page 5 of 17



Project Id:34819038Contact:Chris McKissonProject Location:

Certificate of Analysis Summary 635577

LT Environmental, Inc., Arvada, CO Project Name: Swearingen 1 SWD

Date Received in Lab:Thu Aug-29-19 03:20 pmReport Date:30-AUG-19Project Manager:Jessica Kramer

	Lab Id:	635577-007			
Analysis Requested	Field Id:	PH04			
Anulysis Kequesieu	Depth:	1.5- ft			
	Matrix:	SOIL			
	Sampled:	Aug-29-19 13:30			
Chloride by EPA 300	Extracted:	Aug-29-19 15:57		ſ	
	Analyzed:	Aug-29-19 17:55			
	Units/RL:	mg/kg RL			
Chloride		183 9.98			

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

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

fession Vramer

Jessica Kramer Project Assistant



LT Environmental, Inc., Arvada, CO

Swearingen 1 SWD

Sample Id: PH01 Lab Sample Id: 635577-001		Matrix: Date Colle	Soil cted: 08.29.19 10.20	-	Date Received:08. Sample Depth: 1.5		20
Analytical Method: Chloride by EPA Tech: MAB	A 300				Prep Method: E30 % Moisture:	00P	
Tech: MAB Analyst: MAB		Date Prep:	08.29.19 15.57			t Weight	
Seq Number: 3100197							
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	15900	10000	mg/kg	08.30.19 14.48	D	1000

.

10000



LT Environmental, Inc., Arvada, CO

Swearingen 1 SWD

Sample Id: PH01A Lab Sample Id: 635577-002		Matrix: Date Colle	Soil cted: 08.29.19 11.25	-	Date Received:08.2 Sample Depth: 4 ft		0
Analytical Method: Chloride by EP	A 300				Prep Method: E30	00P	
Tech: MAB Analyst: MAB		Date Prep:	08.29.19 15.57		% Moisture: Basis: We	t Weight	
Seq Number: 3100197		Ĩ				-	
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	15500	10000	mg/kg	08.30.19 15.20	D	1000

.

10000



LT Environmental, Inc., Arvada, CO

Swearingen 1 SWD

Sample Id: PH02 Lab Sample Id: 635577-003		Matrix: Date Colle	Soil cted: 08.29.19 10.00	-	Date Received:08. Sample Depth:0.5		20
Analytical Method: Chloride by EP	A 300]	Prep Method: E30	00P	
Tech: MAB					% Moisture:		
Analyst: MAB		Date Prep:	08.29.19 15.57]	Basis: We	t Weight	
Seq Number: 3100197							
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13700	9940	mg/kg	08.30.19 14.54	D	1000

.



LT Environmental, Inc., Arvada, CO

Swearingen 1 SWD

Sample Id: PH02A Lab Sample Id: 635577-004		Matrix: Date Colle	Soil cted: 08.29.19 12.30	-	Date Received:08. Sample Depth: 1.5		20
Analytical Method: Chloride by EP	A 300				Prep Method: E30)0P	
Tech: MAB				(% Moisture:		
Analyst: MAB		Date Prep:	08.29.19 15.57]	Basis: We	t Weight	
Seq Number: 3100197							
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	15800	9960	mg/kg	08.30.19 10.39	D	1000

.

9960



Certificate of Analytical Results 635577

LT Environmental, Inc., Arvada, CO

Swearingen 1 SWD

Sample Id: Lab Sample I	PH03 d: 635577-005		Matrix: Date Colle	Soil cted: 08.29.19 12.55		Date Received:(Sample Depth: 1		0
Analytical M	ethod: Chloride by EPA	A 300				Prep Method: I	E300P	
Tech:	MAB					% Moisture:		
Analyst:	MAB		Date Prep:	08.29.19 15.57		Basis: V	Wet Weight	
Seq Number:	3100197							
Parameter		Cas Number	Result	RL	Units	Analysis Dat	e Flag	Dil
Chloride		16887-00-6	2760	198	mg/kg	08.29.19 17.42	2	20



LT Environmental, Inc., Arvada, CO

Swearingen 1 SWD

Sample Id: Lab Sample Id	PH03A d: 635577-006		Matrix: Date Colle	Soil ected: 08.29.19 13.00		Date Received:08. Sample Depth: 3.0		20
Analytical Me	ethod: Chloride by EPA	300				Prep Method: E30)0P	
Tech:	MAB					% Moisture:		
Analyst:	MAB		Date Prep	: 08.29.19 15.57		Basis: We	t Weight	
Seq Number:	3100197							
Parameter		Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	14300	9980	mg/kg	08.30.19 14.42	D	1000

.

9980



Certificate of Analytical Results 635577

.

LT Environmental, Inc., Arvada, CO

Swearingen 1 SWD

Sample Id: PH04 Lab Sample Id: 635577-007		Matrix: Date Collecte	Soil ed: 08.29.19 13.30		Date Received:08 Sample Depth: 1.:		
Analytical Method: Chloride by EPA 300 Tech: MAB Analyst: MAB	0	Date Prep:	08.29.19 15.57		Prep Method: E3 % Moisture: Basis: W	800P et Weight	
Seq Number: 3100197							
Parameter	Cas Number	Result I	RL	Units	Analysis Date	Flag	Dil
Chloride 10	6887-00-6	183	9.98	mg/kg	08.29.19 17.55		1



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 LimitSDLSample Detection LimitLOD Limit of Detection
- PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation
- DL Method Detection Limit
- NC Non-Calculable

SMP Clie	ent Sample	BLK	Method Blank	
BKS/LCS	S Blank Spike/Laboratory Control Sample	BKSD/LCSD	Blank Spike Duplicate/Labo	ratory 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



ORATORIES



LT Environmental, Inc.

Swearingen 1 SWD

Analytical Method:	Chloride by EPA 30	0						Pr	ep Metho	d: E30)P	
Seq Number:	3100197			Matrix:	Solid		Date Prep: 08.29.19					
MB Sample Id:	7685207-1-BLK		LCS Sample Id: 7685207-1-BKS			I-BKS	LCSD Sample Id: 768				5207-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD]	RPD Limi	t Units	Analysis Date	Flag

Analytical Method:	Chloride by EPA 3	00						Pr	ep Metho	d: E30	0P	
Seq Number:	3100197			Matrix:	Soil				Date Pre	ep: 08.2	29.19	
Parent Sample Id:	635446-019	MS Sar	nple Id:	635446-019 S			MSD Sample Id: 635446			446-019 SD		
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limi	t Units	Analysis Date	Flag
Chloride	24.1	199	234	105	245	111	80-120	5	20	mg/kg	08.29.19 15:09	

Analytical Method:	Chloride by EPA 3	00						Pr	ep Metho	od: E30	OP	
Seq Number:	3100197			Matrix:	Solid				Date Pre	ep: 08.2	9.19	
Parent Sample Id:	635590-001	MS Sar	nple Id:	635590-001 S			MSD Sample Id: 6355			590-001 SD		
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limi	t Units	Analysis Date	Flag
Chloride	52.5	199	273	111	291	119	80-120	6	20	mg/kg	08.29.19 19:22	

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

LCS = Laboratory Control Sample A = Parent Result C = MS/LCS Result E = MSD/LCSD Result MS = Matrix Spike B = Spike Added D = MSD/LCSD % Rec

3 of 172				Chain of Custody	ustody	-	Work Order No: 43557-	47020
C SX	BORATORIES	M Hobbs,NM (575	idland, TX (432-704-54) -392-7550) Phoenix, A	Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800)	 Midland, TX (432-704-5440) EL Paso, TX (915)585-3443 Lubbock, TX (806)794-1296 (575-392-7550) Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813-620-2000) 	-620-2000)	www.xenco.com	Page of
Project Manager: Chri	Chris McKisson		Bill to: (if different)	Chris McKisson			Com	nents
	LT Environmental, Inc.		Company Name:			Program: UST/PST	-	s RJRC Superfund
	820 Megan Avenue, Unit B	it B	Address:			State of Project:		
City, State ZIP: Rifle	Rifle, CO 81650		City, State ZIP:			Reporting:Level II		
Phone: (970	(970) 285-9985	En	Email: Ilaumbach@ltenv.com,		cmckisson@ltenv.com, asmith@ltenv.com	Deliverables: EDD	ADaPT [(D
Project Name:	Swearingen 1 SWD	SWD	Turn Around		ANALYSIS REQUEST	EST		Work Order Notes
Project Number:	34819038		Routine					
P.O. Number:		R	Rush: ROUTINE					
Sampler's Name:	Lynda Laumbach		Due Date:					
SAMPLE RECEIPT	Temp Blank:	Yes No Wet Ice:	ce: Yes No					
Temperature (°C):	2.4	Thermometer ID						
Received Intact:	Z	TNMDO	2					
Sample Custody Seals:	Yes No N/A	Total Containers:	7				TA	TAT starts the day recevied by the lab, if received by 4:30pm
Sample Identification	lion Matrix	Date Time Sampled Sampled	Depth	Numbo				Sample Comments
1 5410	S	05:c1 1:20	1.51					
HI CHI	5			X				
2 alla	4	10:00	0.5'					
NI-2H	~~~	12:30						
PHo 3 A	5	V 13:00	3.0					
hold	S	08/4/09 13:30	~	- X				
		3						
4:07								
Circle Method(s) and Metal(s) to be analyzed	200.8 / 6020: / Metal(s) to be anal	0	RCRA 13PPM Texas 11 A	Al Sb As Ba Be B VA Sb As Ba Be Cd	Cd Ca Cr Co Cr Co Cu Pb	≦.	K Se Ag SiO2 Na Sr 1631/2	Na Sr TI Sn U V Zn 1631/245.1/7470 /7471 : Hg
Actice: Signature of this docume service. Xenco will be liable of Xenco. A minimum charge of \$	nt and relinquishment of s nly for the cost of samples \$75.00 will be applied to ea	samples constitutes a vali s and shall not assume ar ach project and a charge	d purchase order from c ly responsibility for any l of \$5 for each sample su	lient company to Xenco, its a losses or expenses incurred l bmitted to Xenco, but not ans	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 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 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.	is standard terms and con circumstances beyond the inless previously negotiat	ditions e control ed.	
Relinquished by: (Signate	Taluar 1	Received by: (Signature)	ature)	Date/Time	Relinquished by: (Signature)	ure) Recei	Received by: (Signature)	Date/Time
	Ma	Xue	8	29/29/2019 15:20 2	4 2			
(eceiv				0				Revised Date 051418 Rev. 2018.1

Final 1.000

Received by OCD: 7/13/2020 1:32:57 PM

Work Order #: 635577



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc. Date/ Time Received: 08/29/2019 03:20:00 PM

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : T-NM-007

Sample Receipt Check	list	Comments
#1 *Temperature of cooler(s)?	2.4	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	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	

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

Analyst:

PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Checklist reviewed by: Jessica, WAMER

Date: 08/29/2019

Jessica Kramer

Date: 08/30/2019

for LT Environmental, Inc.

Project Manager: Dan Moir

Swearingen #1 SWD

034819038

23-SEP-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), 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-Tampa: Florida (E87429), North Carolina (483) Received by OCD: 7/13/2020 1:32:57 PM



23-SEP-19

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

Reference: XENCO Report No(s): 637301 Swearingen #1 SWD Project Address:

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 637301. 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. 637301 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Vramer

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 637301

LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH03B	S	09-18-19 08:30	6 ft	637301-001
PH03C	S	09-18-19 08:50	9 ft	637301-002
PH04A	S	09-18-19 09:10	4 ft	637301-003
PH02B	S	09-18-19 09:30	8 ft	637301-004
PH01B	S	09-18-19 10:15	8.5 ft	637301-005
PH02B	S	09-18-19 09:30	8 ft	637301-004

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CASE NARRATIVE

Client Name: LT Environmental, Inc. Project Name: Swearingen #1 SWD

 Project ID:
 034819038

 Work Order Number(s):
 637301

ORATORIES

 Report Date:
 23-SEP-19

 Date Received:
 09/18/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Project Id:03481903Contact:Dan Moir

Project Location:

Certificate of Analysis Summary 637301

LT Environmental, Inc., Arvada, CO Project Name: Swearingen #1 SWD

Date Received in Lab:Wed Sep-18-19 01:45 pmReport Date:23-SEP-19Project Manager:Jessica Kramer

	Lab Id:	637301-00)1	637301-0	02	637301-0	03	637301-00)4	637301-00)5	
Analysis Requested	Field Id:	PH03B		PH03C	2	PH04A		PH02B		PH01B		
Anulysis Kequesleu	Depth:	6- ft		9- ft		4- ft		8- ft		8.5- ft		
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		ſ
	Sampled:	Sep-18-19 0	8:30	Sep-18-19 (08:50	Sep-18-19 0	9:10	Sep-18-19 0	9:30	Sep-18-19 1	0:15	
Chloride by EPA 300	Extracted:	Sep-18-19 1	6:00	Sep-18-19	6:00	Sep-18-19 1	6:00	Sep-18-19 1	6:00	Sep-18-19 1	6:00	
	Analyzed:	Sep-18-19 1	9:48	Sep-18-19	9:55	Sep-18-19 2	0:01	Sep-18-19 2	0:08	Sep-18-19 2	0:14	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
Chloride		13800 D	494	1300	50.1	846	101	9260 D	500	3350 D	200	

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.%

fession kenner

Jessica Kramer Project Assistant



50

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LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id: Lab Sample I	PH03B d: 637301-001		Matrix: Date Collect	Soil ed: 09.18.19 08.30		Date Received Sample Depth	d:09.18.19 13.4: n: 6 ft	5
Analytical Me	ethod: Chloride by EPA 3	800				Prep Method:	E300P	
Tech:	MAB					% Moisture:		
Analyst:	MAB		Date Prep:	09.18.19 16.00		Basis:	Wet Weight	
Seq Number:	3101899							
Parameter		Cas Number	Result	RL	Units	Analysis D	ate Flag	Dil

Chloride

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16887-00-6 13800

494

mg/kg

09.19.19 18.26 D

Page 6 of 14



5

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LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id: Lab Sample Id	PH03C d: 637301-002		Matrix: Date Collec	Soil sted: 09.18.19 08.50		Date Received Sample Depth	d:09.18.19 13.4 n:9 ft	5
2	ethod: Chloride by EPA	300				Prep Method:	E300P	
Tech:	MAB					% Moisture:	*** . *** * * * .	
Analyst:	MAB		Date Prep:	09.18.19 16.00		Basis:	Wet Weight	
Seq Number:	3101899							
Parameter		Cas Number	Result	RL	Units	Analysis D	ate Flag	Dil

.

16887-00-6 1300

50.1

09.18.19 19.55

mg/kg

Page 7 of 14



LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id: Lab Sample Id	PH04A d: 637301-003		Matrix: Date Collec	Soil cted: 09.18.19 09.10		Date Received Sample Depth		3.19 13.45	
Analytical Me	ethod: Chloride by EPA 3	800				Prep Method:	E300	Р	
Tech:	MAB					% Moisture:			
Analyst:	MAB		Date Prep:	09.18.19 16.00		Basis:	Wet V	Weight	
Seq Number:	3101899								
Parameter		Cas Number	Result	RL	Units	Analysis D	ate	Flag	Dil

846

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16887-00-6

101

mg/kg

09.18.19 20.01

10

.

Page 8 of 14



LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id: Lab Sample Id	PH02B d: 637301-004		Matrix: Date Collec	Soil ted: 09.18.19 09.30		Date Received Sample Depth		19 13.45	
Analytical Me	ethod: Chloride by EPA 3	00				Prep Method:	E300P	,	
Tech:	MAB					% Moisture:			
Analyst:	MAB		Date Prep:	09.18.19 16.00		Basis:	Wet W	eight	
Seq Number:	3101899								
Parameter		Cas Number	Result	RL	Units	Analysis D	ate l	Flag	Dil

.

16887-00-6

9260

500

09.19.19 12.59

mg/kg

D

50



LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id: Lab Sample Id	PH01B d: 637301-005		Matrix: Date Collec	Soil ted: 09.18.19 10.15		Date Received Sample Depth		.19 13.45	
Analytical Me	ethod: Chloride by EPA 3	00				Prep Method:	E300F	2	
Tech:	MAB					% Moisture:			
Analyst:	MAB		Date Prep:	09.18.19 16.00		Basis:	Wet W	Veight	
Seq Number:	3101899								
Parameter		Cas Number	Result	RL	Units	Analysis D	ate	Flag	Dil

.

16887-00-6 3350

200

09.19.19 17.23

mg/kg

D

20



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 LimitSDLSample Detection LimitLOD Limit of Detection
- PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation
- DL Method Detection Limit
- NC Non-Calculable

SMP Clie	ent Sample	BLK	Method Blank	
BKS/LCS	S Blank Spike/Laboratory Control Sample	BKSD/LCSD	Blank Spike Duplicate/Labo	ratory 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



BORATORIES

LT Environmental, Inc.

Swearingen #1 SWD

Analytical Method:	Chloride by EPA 3	00						Pr	ep Metho	d: E30	0P	
Seq Number:	3101899			Matrix:	Solid				Date Pre	p: 09.1	8.19	
MB Sample Id:	7686418-1-BLK		LCS Sar	nple Id:	7686418-	I-BKS		LCSI	D Sample	Id: 7686	6418-1-BSD	
Parameter	MB	Spike	LCS	LCS	LCSD	LCSD	Limits	%RPD	RPD Limi	t Units	Analysis	Flag
	Result	Amount	Result	%Rec	Result	%Rec					Date	0

Analytical Method:	Chloride by EPA 3)0						Pre	p Metho	d: E300)P	
Seq Number:	3101899			Matrix:	Soil				Date Pre	p: 09.1	8.19	
Parent Sample Id:	637191-020		MS San	nple Id:	637191-02	20 S		MSD	Sample	Id: 6371	91-020 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD R	PD Limit	Units	Analysis Date	Flag

Analytical Method:	Chloride by EPA 30	00						P	rep Metho	od: E30	OP	
Seq Number:	3101899			Matrix:	Solid				Date Pre	ep: 09.1	8.19	
Parent Sample Id:	637312-001		MS Sar	nple Id:	637312-00	01 S		MS	D Sample	d: 637	312-001 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	Flag
Chloride	1220	1010	2390	116	2400	117	90-110	0	20	mg/kg	09.18.19 21:44	Х

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

Tage of of fields RRC Superfund fields RRC Superfund UST TAT starts the day received by th lab. if received by 4:30pm Work Order Notes Sample Comments Sample Comments of 1/245.11/7470 / 7471 : Hg	X	LABORATORIES Hobs, M(E	Houston, TX (281) 240-42 Midland, TX (432-704-5. 575-392-7550) Phoenix.	200 Dallas,TX (214) 902-0: 140) EL Paso,TX (915)585 AZ (480-355-0900) Atlants	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 575-392-7550) Phoenix AZ (480-355-10900) Atlanta GA (770-440-8800) Tommo EL 1243-6		_
RP Brownfil Brownfil ADaPT ADaPT 1631 1631 1631			Bill to: (if differen	t) Chris McKisson		M	rage of ot
el IIIBST/UST TRP Igvel IV		Environmental, Inc.	Company Nam				
ADaPT ADaPT 1631 1631 (Signature)		0 Megan Avenue, Unit B	Address:			1	punuadhe over
ADaPT ADaPT 1631 1631		le, CO 81650	City, State ZIP			thevel III	TARP
g SiO2 Na 3 1631 (Signature)			Email: Ilaumbach@lte	nv.com, cmckisson@lte	T		Other
g SiO2 Na (Signature)	Project Name:		Turn Around		ANALYSIS REDUIES		Work Order Notes
g SiO2 Na 3 1631 1 (Signature)	Project Number:		Routine				
g SiO2 Na 1631	P.O. Number:						
g SiO2 Na g SiO2 Na g SiO2 Na g	Sampler's Name:		Due Date:				
g SiO2 Na (Signature)	SAMPLE RECEIPT	No No	Kes)				
g SiO2 Na 3 1631 1 (Signature)	Temperature (°C):	2		GLS			
g SiO2 Na (Signature)	Received Intact:	es No t	- I - F	(12			
g SiO2 Na (Signature)	Cooler Custody Seals: Sample Custody Seals:	No N/A	Q1	(3108 08=0 /			AT starts the day recevied by the
Sample Comme Sample Comme Sample Comme Sample Comme	-mpo factor ad			443) 443)			lab, if received by 4:30pm
g SiO2 Na Sr TI Sn U V Zn 1631 / 245.1 / 7470 / 7471 1631 / 245.1 / 7470 / 7471	Sample Identifica	Matrix Date Sampled		а) нат хэте			Sample Comments
g SiO2 Na Sr TI Sn U V Zn 1631 / 245.1 / 7470 / 7471 (Signature) Date/Tim	3	S 09/18/19	_				
g SiO2 Na Sr TI Sn U V Zn 1631 / 245.1 / 7470 / 7471 1631 / 245.1 / 7470 / 7471	- PHO3C	09/18/19		+ -			
g SiO2 Na Sr TI Sn U V Zn 1631 / 245.1 / 7470 / 7471 (Signature) Date/Tim	Y	_		X I			+
g SiO2 Na Sr TI Sn U V Zn 1631 / 245.1 / 7470 / 7471 1631 / 245.1 / 7470 / 7471 (Signature) Date/Tim	- 1			X			
g SiO2 Na Sr TI Sn U V Zn 1631 / 245.1 / 7470 / 7471 1631 / 245.1 / 7470 / 7471 : (Signature) Date/Tim		>	8.	X			
g SiO2 Na Sr TI Sn U V Zn 1631 / 245.1 / 7470 / 7471 1631 / 245.1 / 7470 / 7471 (Signature) Date/Tim			0		X		
g SiO2 Na Sr TI Sn U V Zn 1631 / 245.1 / 7470 / 7471 1631 / 245.1 / 7470 / 7471		-	X				
g SiO2 Na Sr TI Sn U V Zn 1631 / 245.1 / 7470 / 7471 1631 / 245.1 / 7470 / 7471							
g SiO2 Na Sr TI Sn U V Zn 1631 / 245.1 / 7470 / 7471 (Signature) Date/Tim							
g SiO2 Na Sr TI Sn U V Zn 1631 / 245.1 / 7470 / 7471 : (Signature) Date/Tim		1					
1631 / 245.1 / 7470 / 7471 (Signature) Date/Tim	Total 200.7 / 6010 Circle Method(c) and	8	13PPM Texas 11	I Sb As Ba Be	3 Cd Ca Cr Co Cu Fe Pb M	Se Ag SiO2 Na	Sn U V
: (Signature)	Notice: Signature of this document			A SD AS Ba Be C	a cr co cu Pb Mn Mo Ni S		17471
Received by: (Signature) Date/Time Relinquished by: (Signature) Received by: (Signature) 01/6/br/13: 4/5 4 4 6 6	Notice: Signature of this documi of service. Xenco will be liable c of Xenco. A minimum charge of	ent and relinquishment of samples constitutes a va nily for the cost of samples and shall not assume a \$75.00 will be applied to each project and a charg	alid purchase order from c any responsibility for any e of \$5 for each sample su	lient company to Xenco, its a losses or expenses incurred bmitted to Xenco, but not an	iffiliates and subcontractors. It assigns stuby the client if such losses are due to circalyzed. These terms will be enforced unles	indard terms and conditions imstances beyond the control s previously negotiated.	
16/24/2 13:45 2 6 8	Relinquished by: (Sig		nature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
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Final 1.000

Received by OCD: 7/13/2020 1:32:57 PM

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Received by OCD: 7/13/2020 1:32:57 PM

Client: LT Environmental, Inc.



XENCO Laboratories



Prelogin/Nonconformance Report- Sample Log-In

Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 09/18/2019 01:45:00 PM Temperature Measuring device used : T-NM-007 Work Order #: 637301 Sample Receipt Checklist #1 *Temperature of cooler(s)? 0 #2 *Shipping container in good condition? Yes #3 *Samples received on ice? Yes #4 *Custody Seals intact on shipping container/ cooler? Vaa

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

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

Analyst:

PH Device/Lot#:

Date: 09/18/2019

Comments

Checklist completed by: Elizabeth McClellan
Checklist reviewed by: Mark Moak
Kelsey Brooks

Date: 09/19/2019

for

LT Environmental, Inc.

Project Manager: Chris McKisson

Swearingen #1 SWD

034819038

02-DEC-19

Collected By: Client



1089 N Canal Street Carlsbad, NM 88220

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

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

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16) Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-19-21) Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19) Xenco-Carlsbad (LELAP): Louisiana (05092) Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-19-5) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757) Xenco-Tampa: Florida (E87429), North Carolina (483) Received by OCD: 7/13/2020 1:32:57 PM



02-DEC-19

Project Manager: Chris McKisson LT Environmental, Inc. 4600 W. 60th Avenue Arvada, CO 80003

Reference: XENCO Report No(s): 644426 Swearingen #1 SWD Project Address: Rural Eddy County

Chris McKisson:

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) 644426. 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. 644426 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Vramer

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 644426

LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH05	S	11-23-19 08:00	1 ft	644426-001
PH05A	S	11-23-19 08:55	8 ft	644426-002
PH06	S	11-23-19 10:20	1 ft	644426-003
PH06A	S	11-23-19 10:45	6 ft	644426-004
PH06B	S	11-23-19 10:55	8 ft	644426-005

.



CASE NARRATIVE

Client Name: LT Environmental, Inc. Project Name: Swearingen #1 SWD

 Project ID:
 034819038

 Work Order Number(s):
 644426

TORIES

Report Date: 02-DEC-19 Date Received: 11/25/2019

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments: Batch: LBA-3108829 BTEX by EPA 8021B Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Project Id:034819038Contact:Chris McKissonProject Location:Rural Eddy County

Certificate of Analysis Summary 644426

LT Environmental, Inc., Arvada, CO Project Name: Swearingen #1 SWD

Date Received in Lab:Mon Nov-25-19 11:25 amReport Date:02-DEC-19Project Manager:Jessica Kramer

	Lab Id:	644426-0	001	644426-0	002	644426-	003	644426-0	004	644426-0	005	
Analysis Requested	Field Id:	PH05		PH05A	x	PH06	5	PH064	4	PH06H	3	
Analysis Kequeslea	Depth:	1- ft		8- ft		1- ft		6- ft		8- ft		
	Matrix:	SOIL										
	Sampled:	Nov-23-19	08:00	Nov-23-19	08:55	Nov-23-19	10:20	Nov-23-19	10:45	Nov-23-19	10:55	
BTEX by EPA 8021B	Extracted:	Nov-26-19	10:00									
	Analyzed:	Nov-26-19	17:07	Nov-26-19	17:26	Nov-26-19	17:45	Nov-26-19	18:04	Nov-26-19	18:23	
	Units/RL:	mg/kg	RL									
Benzene		< 0.00202	0.00202	< 0.00200	0.00200	< 0.00201	0.00201	< 0.00200	0.00200	<0.00199	0.00199	
Toluene		< 0.00202	0.00202	< 0.00200	0.00200	< 0.00201	0.00201	< 0.00200	0.00200	<0.00199	0.00199	
Ethylbenzene		< 0.00202	0.00202	< 0.00200	0.00200	< 0.00201	0.00201	< 0.00200	0.00200	< 0.00199	0.00199	
m,p-Xylenes		< 0.00403	0.00403	< 0.00401	0.00401	< 0.00402	0.00402	< 0.00399	0.00399	< 0.00398	0.00398	
o-Xylene		< 0.00202	0.00202	< 0.00200	0.00200	< 0.00201	0.00201	< 0.00200	0.00200	< 0.00199	0.00199	
Xylenes, Total		< 0.00202	0.00202	< 0.00200	0.00200	< 0.00201	0.00201	< 0.00200	0.00200	< 0.00199	0.00199	
Total BTEX		< 0.00202	0.00202	< 0.00200	0.00200	< 0.00201	0.00201	< 0.00200	0.00200	< 0.00199	0.00199	
Chloride by EPA 300	Extracted:	Nov-25-19	18:11									
	Analyzed:	Nov-25-19	22:31	Nov-25-19	22:37	Nov-25-19	22:57	Nov-25-19	23:04	Nov-25-19	23:11	
	Units/RL:	mg/kg	RL									
Chloride		<10.0	10.0	65.5	10.1	11.3	10.1	157	10.0	73.8	10.0	
TPH by SW8015 Mod	Extracted:	Nov-25-19	17:00	Nov-25-19	17:00	Nov-25-19	17:00	Nov-25-19	17:00	Nov-26-19	12:00	
	Analyzed:	Nov-26-19	07:11	Nov-26-19	07:11	Nov-26-19	07:31	Nov-26-19	07:31	Nov-26-19	13:08	
	Units/RL:	mg/kg	RL									
Gasoline Range Hydrocarbons (GRO)		<50.2	50.2	<50.3	50.3	<50.1	50.1	<50.0	50.0	<50.1	50.1	
Diesel Range Organics (DRO)		<50.2	50.2	<50.3	50.3	<50.1	50.1	<50.0	50.0	<50.1	50.1	
Motor Oil Range Hydrocarbons (MRO)		<50.2	50.2	<50.3	50.3	<50.1	50.1	<50.0	50.0	<50.1	50.1	
Total GRO-DRO		<50.2	50.2	<50.3	50.3	<50.1	50.1	<50.0	50.0	<50.1	50.1	
Total TPH		<50.2	50.2	<50.3	50.3	<50.1	50.1	<50.0	50.0	<50.1	50.1	

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

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Version: 1.%

fession kenner

Jessica Kramer Project Assistant

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.

Certificate of Analytical Results 644426

LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id: PH05 Lab Sample Id: 644426-001		Matrix: Date Collec	Soil cted: 11.23.19 08.00		Date Received:11. Sample Depth: 1 ft		5
Analytical Method:Chloride byTech:MABAnalyst:MABSeq Number:3108699	EPA 300	Date Prep:	11.25.19 18.11		Prep Method: E3(% Moisture: Basis: We	00P t Weight	
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	11.25.19 22.31	U	1
Analytical Method: TPH by SW Tech: DTH Analyst: DTH Seq Number: 3108738	8015 Mod	Date Prep:	11.25.19 17.00		Prep Method: SW % Moisture: Basis: We	8015P t Weight	
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil

Parameter	Cas Number	Result	KL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2		mg/kg	11.26.19 07.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2		mg/kg	11.26.19 07.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2		mg/kg	11.26.19 07.11	U	1
Total GRO-DRO	PHC628	<50.2	50.2		mg/kg	11.26.19 07.11	U	1
Total TPH	PHC635	<50.2	50.2		mg/kg	11.26.19 07.11	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	1	111-85-3	130	%	70-135	11.26.19 07.11		
o-Terphenyl	8	34-15-1	133	%	70-135	11.26.19 07.11		



LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id: PH05	Matrix: Soil	Date Received:11.25.19 11.25
Lab Sample Id: 644426-001	Date Collected: 11.23.19 08.00	Sample Depth: 1 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.26.19 10.00	Basis: Wet Weight
Seq Number: 3108829		

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00202	0.00202		mg/kg	11.26.19 17.07	U	1
Toluene	108-88-3	< 0.00202	0.00202		mg/kg	11.26.19 17.07	U	1
Ethylbenzene	100-41-4	< 0.00202	0.00202		mg/kg	11.26.19 17.07	U	1
m,p-Xylenes	179601-23-1	< 0.00403	0.00403		mg/kg	11.26.19 17.07	U	1
o-Xylene	95-47-6	< 0.00202	0.00202		mg/kg	11.26.19 17.07	U	1
Xylenes, Total	1330-20-7	< 0.00202	0.00202		mg/kg	11.26.19 17.07	U	1
Total BTEX		< 0.00202	0.00202		mg/kg	11.26.19 17.07	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	104	%	70-130	11.26.19 17.07		
4-Bromofluorobenzene		460-00-4	102	%	70-130	11.26.19 17.07		



Seq Number: 3108738

Certificate of Analytical Results 644426

LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id: Lab Sample	PH05A Id: 644426-002		Matrix: Date Collec	Soil ted: 11.23.19 08.55		Date Received:11.2 Sample Depth: 8 ft	5.19 11.25	i
Analytical M Tech: Analyst: Seq Number	Iethod: Chloride by EPA MAB MAB : 3108699	. 300	Date Prep:	11.25.19 18.11		Prep Method: E30 % Moisture: Basis: Wet	0P Weight	
Parameter		Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	65.5	10.1	mg/kg	11.25.19 22.37		1
Analytical M Tech: Analyst:	lethod: TPH by SW8015 DTH DTH	Mod	Date Prep:	11.25.19 17.00		Prep Method: SW8 % Moisture: Basis: Wet	3015P Weight	

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3		mg/kg	11.26.19 07.11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3		mg/kg	11.26.19 07.11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3		mg/kg	11.26.19 07.11	U	1
Total GRO-DRO	PHC628	<50.3	50.3		mg/kg	11.26.19 07.11	U	1
Total TPH	PHC635	<50.3	50.3		mg/kg	11.26.19 07.11	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	109	%	70-135	11.26.19 07.11		
o-Terphenyl		84-15-1	117	%	70-135	11.26.19 07.11		



LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id: PH05A	Matrix: Soil	Date Received:11.25.19 11.25
Lab Sample Id: 644426-002	Date Collected: 11.23.19 08.55	Sample Depth: 8 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.26.19 10.00	Basis: Wet Weight
Seq Number: 3108829		

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	11.26.19 17.26	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	11.26.19 17.26	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	11.26.19 17.26	U	1
m,p-Xylenes	179601-23-1	< 0.00401	0.00401		mg/kg	11.26.19 17.26	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	11.26.19 17.26	U	1
Xylenes, Total	1330-20-7	< 0.00200	0.00200		mg/kg	11.26.19 17.26	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	11.26.19 17.26	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	112	%	70-130	11.26.19 17.26		
1,4-Difluorobenzene		540-36-3	99	%	70-130	11.26.19 17.26		



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Certificate of Analytical Results 644426

LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id:	PH06		Matrix:	Soil]	Date Received:11.2	25.19 11.2	5
Lab Sample	Id: 644426-003		Date Coll	ected: 11.23.19 10.20	\$	Sample Depth: 1 ft		
Analytical M	lethod: Chloride by EP	A 300]	Prep Method: E30)0P	
Tech:	MAB				0	% Moisture:		
Analyst:	MAB		Date Prep	: 11.25.19 18.11]	Basis: We	t Weight	
Seq Number:	3108699							
Parameter		Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	11.3	10.1	mg/kg	11.25.19 22.57		1

Analytical Method: TPH by SW801	5 Mod				Р	rep Method: SW	8015P	
Tech: DTH					%	Moisture:		
Analyst: DTH		Date Prep:	11.25.	19 17.00	В	asis: We	t Weight	
Seq Number: 3108738								
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1		mg/kg	11.26.19 07.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1		mg/kg	11.26.19 07.31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1		mg/kg	11.26.19 07.31	U	1
Total GRO-DRO	PHC628	<50.1	50.1		mg/kg	11.26.19 07.31	U	1
Total TPH	PHC635	<50.1	50.1		mg/kg	11.26.19 07.31	U	1
Surrogate		% Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	11	11-85-3	121	%	70-135	11.26.19 07.31		
o-Terphenyl	84	4-15-1	120	%	70-135	11.26.19 07.31		



LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id: PH06 Lab Sample Id: 644426-003	Matrix: Soil Date Collected: 11.23.19 10.20	Date Received:11.25.19 11.25 Sample Depth: 1 ft
Analytical Method: BTEX by EPA 8021B Tech: MAB		Prep Method: SW5030B % Moisture:
Analyst: MAB	Date Prep: 11.26.19 10.00	Basis: Wet Weight
Seq Number: 3108829	-	

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00201	0.00201		mg/kg	11.26.19 17.45	U	1
Toluene	108-88-3	< 0.00201	0.00201		mg/kg	11.26.19 17.45	U	1
Ethylbenzene	100-41-4	< 0.00201	0.00201		mg/kg	11.26.19 17.45	U	1
m,p-Xylenes	179601-23-1	< 0.00402	0.00402		mg/kg	11.26.19 17.45	U	1
o-Xylene	95-47-6	< 0.00201	0.00201		mg/kg	11.26.19 17.45	U	1
Xylenes, Total	1330-20-7	< 0.00201	0.00201		mg/kg	11.26.19 17.45	U	1
Total BTEX		< 0.00201	0.00201		mg/kg	11.26.19 17.45	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	110	%	70-130	11.26.19 17.45		
1,4-Difluorobenzene		540-36-3	90	%	70-130	11.26.19 17.45		



LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id:	PH06A		Matrix:	Soil		Date Received:11.2	25.19 11.25	5
Lab Sample Id	d: 644426-004		Date Collec	cted: 11.23.19 10.45		Sample Depth: 6 ft		
Analytical Me	ethod: Chloride by EPA	A 300				Prep Method: E30	0P	
Tech:	MAB					% Moisture:		
Analyst:	MAB		Date Prep:	11.25.19 18.11		Basis: Wet	t Weight	
Seq Number:	3108699							
Parameter		Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	157	10.0	mg/kg	11.25.19 23.04		1

Analytical Method: T	PH by SW8015 Mod				Р	rep Method: SW	8015P	
Tech: DTH					%	6 Moisture:		
Analyst: DTH		Date Prep:	11.25	19 17.00	В	asis: We	t Weight	
Seq Number: 310873	8							
Parameter	Cas Numb	er Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarb	oons (GRO) PHC610	<50.0	50.0		mg/kg	11.26.19 07.31	U	1
Diesel Range Organics (DI	RO) C10C28DRO	< 50.0	50.0		mg/kg	11.26.19 07.31	U	1
Motor Oil Range Hydrocarbon	ns (MRO) PHCG2835	<50.0	50.0		mg/kg	11.26.19 07.31	U	1
Total GRO-DRO	PHC628	<50.0	50.0		mg/kg	11.26.19 07.31	U	1
Total TPH	PHC635	<50.0	50.0		mg/kg	11.26.19 07.31	U	1
Surrogate		% Cas Number	6 Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	109	%	70-135	11.26.19 07.31		
o-Terphenyl		84-15-1	119	%	70-135	11.26.19 07.31		



LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id: PH06A	Matrix: Soil	Date Received:11.25.19 11.25
Lab Sample Id: 644426-004	Date Collected: 11.23.19 10.45	Sample Depth: 6 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.26.19 10.00	Basis: Wet Weight
Seq Number: 3108829		

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	11.26.19 18.04	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	11.26.19 18.04	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	11.26.19 18.04	U	1
m,p-Xylenes	179601-23-1	< 0.00399	0.00399		mg/kg	11.26.19 18.04	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	11.26.19 18.04	U	1
Xylenes, Total	1330-20-7	< 0.00200	0.00200		mg/kg	11.26.19 18.04	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	11.26.19 18.04	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	105	%	70-130	11.26.19 18.04		
4-Bromofluorobenzene		460-00-4	115	%	70-130	11.26.19 18.04		



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Certificate of Analytical Results 644426

LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Lab Sample Id:644426-00Analytical Method:ChlorTech:MABAnalyst:MAB		Date Colle	cted: 11.23.19 10.55]	Sample Depth: 8 ft Prep Method: E30		
Tech: MAB	de by EPA 300				Prep Method: E30	0P	
Analyst: MAB					% Moisture:		
		Date Prep:	11.25.19 18.11]	Basis: Wet	Weight	
Seq Number: 3108699							
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	73.8	10.0	mg/kg	11.25.19 23.11		1

Analytical Method: TPH by SW801	5 Mod				Р	rep Method: SW	8015P	
Tech: DTH					%	6 Moisture:		
Analyst: DTH		Date Prep:	11.26.	19 12.00	В	asis: We	t Weight	
Seq Number: 3108876								
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1		mg/kg	11.26.19 13.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1		mg/kg	11.26.19 13.08	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1		mg/kg	11.26.19 13.08	U	1
Total GRO-DRO	PHC628	<50.1	50.1		mg/kg	11.26.19 13.08	U	1
Total TPH	PHC635	<50.1	50.1		mg/kg	11.26.19 13.08	U	1
Surrogate		% Cas Number	Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	11	11-85-3	122	%	70-135	11.26.19 13.08		
o-Terphenyl	84	4-15-1	130	%	70-135	11.26.19 13.08		



LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id: PH06B	Matrix: Soil	Date Received:11.25.19 11.25
Lab Sample Id: 644426-005	Date Collected: 11.23.19 10.55	Sample Depth: 8 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 11.26.19 10.00	Basis: Wet Weight
Seq Number: 3108829		

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00199	0.00199		mg/kg	11.26.19 18.23	U	1
Toluene	108-88-3	< 0.00199	0.00199		mg/kg	11.26.19 18.23	U	1
Ethylbenzene	100-41-4	< 0.00199	0.00199		mg/kg	11.26.19 18.23	U	1
m,p-Xylenes	179601-23-1	< 0.00398	0.00398		mg/kg	11.26.19 18.23	U	1
o-Xylene	95-47-6	< 0.00199	0.00199		mg/kg	11.26.19 18.23	U	1
Xylenes, Total	1330-20-7	< 0.00199	0.00199		mg/kg	11.26.19 18.23	U	1
Total BTEX		< 0.00199	0.00199		mg/kg	11.26.19 18.23	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	115	%	70-130	11.26.19 18.23		
1,4-Difluorobenzene		540-36-3	106	%	70-130	11.26.19 18.23		



Flagging Criteria

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

SMP Clie	ent Sample	BLK	Method Blank	
BKS/LCS	S Blank Spike/Laboratory Control Sample	BKSD/LCSD	Blank Spike Duplicate/Labo	ratory 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



BORATORIES

LT Environmental, Inc.

Swearingen #1 SWD

Analytical Method:	Chloride by EPA 3	00						Pr	ep Metho	od: E300)P	
Seq Number:	3108699			Matrix:	Solid				Date Pro	ep: 11.2	5.19	
MB Sample Id:	7691178-1-BLK		LCS San	nple Id:	7691178-1	I-BKS		LCSI	O Sample	e Id: 7691	178-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	Flag
	Kesut	mount	Result	/orce	Result	70 Kec					Date	

Analytical Method:	Chloride by EPA 30	00						Pı	ep Meth	od: E300)P	
Seq Number:	3108699			Matrix:	Soil				Date Pr	ep: 11.2	5.19	
Parent Sample Id:	644389-021		MS San	nple Id:	644389-02	21 S		MS	D Sample	e Id: 6443	389-021 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	Flag
Chloride	40.4	202	254	106	251	105	90-110	1	20	mg/kg	11.25.19 20:48	

Analytical Method:	TPH by S						Prep Metho	od: SW8	8015P				
Seq Number:	3108738				Matrix:	Solid				Date Pre	ep: 11.2	5.19	
MB Sample Id:	7691221-1	-BLK		LCS San	nple Id:	7691221-	1-BKS		LCSD Sample Id: 7691221-1-BSD				
Parameter		MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPI	O RPD Lim	it Units	Analysis Date	Flag
Gasoline Range Hydrocarb	oons (GRO)	<50.0	1000	876	88	967	97	70-135	10	35	mg/kg	11.26.19 03:34	
Diesel Range Organics	(DRO)	<50.0	1000	1070	107	1110	111	70-135	4	35	mg/kg	11.26.19 03:34	
Surrogate		MB %Rec	MB Flag		CS Rec	LCS Flag	LCSI %Re			Limits	Units	Analysis Date	
1-Chlorooctane		105		1	31		125			70-135	%	11.26.19 03:34	
o-Terphenyl		108		1	20		120			70-135	%	11.26.19 03:34	

Analytical Method:	TPH by S	W8015 M	od]	Prep Metho	d: SW8	3015P	
Seq Number:	3108876]	Matrix:	Solid				Date Pre	p: 11.2	6.19	
MB Sample Id:	7691230-1	-BLK		LCS San	nple Id:	7691230-	1-BKS		LC	SD Sample	Id: 769	1230-1-BSD	
Parameter		MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPI) RPD Limi	t Units	Analysis Date	Flag
Gasoline Range Hydrocarb	ons (GRO)	<50.0	1000	952	95	868	87	70-135	9	35	mg/kg	11.26.19 12:48	
Diesel Range Organics	(DRO)	<50.0	1000	1120	112	1050	105	70-135	6	35	mg/kg	11.26.19 12:48	
Surrogate		MB %Rec	MB Flag		CS Rec	LCS Flag	LCSI %Re			Limits	Units	Analysis Date	
1-Chlorooctane		97		1	19		113		-	70-135	%	11.26.19 12:48	
o-Terphenyl		103		1	23		116		-	70-135	%	11.26.19 12:48	

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

Received by OCD: 7/13/2020 1:32:57 PM

QC Summary 644426

LT Environmental, Inc.

Swearingen #1 SWD

Analytical Method:	TPH by SW8015 Mod			Prep Method	: SW8	015P	
Seq Number:	3108738	Matrix:	Solid	Date Prep	: 11.25	5.19	
		MB Sample Id:	7691221-1-BLK				
Parameter		MB Result			Units	Analysis Date	Flag
Motor Oil Range Hydrocarbo	ons (MRO)	<50.0			mg/kg	11.26.19 03:34	

Analytical Method:TPH by SSeq Number:3108876	W8015 Mod Matrix: Solid MB Sample Id: 7691230-1-BLK	Prep Method: Date Prep:			
Parameter	MB Result	U	nits 2	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg	g/kg 11.	.26.19 12:28	

Analytical Method: Seq Number: Parent Sample Id:	MS San	Matrix: nple Id:		20 S			rep Method Date Prep D Sample l	p: 11.2	8015P 5.19 389-020 SD				
Parameter		Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbo	ons (GRO)	< 50.2	1000	1000	100	853	84	70-135	16	35	mg/kg	11.26.19 04:13	
Diesel Range Organics ((DRO)	< 50.2	1000	1150	115	1040	103	70-135	10	35	mg/kg	11.26.19 04:13	
Surrogate					IS Rec	MS Flag	MSI %Re			limits	Units	Analysis Date	
1-Chlorooctane				1	32		127		7	0-135	%	11.26.19 04:13	
o-Terphenyl				1	27		118		7	0-135	%	11.26.19 04:13	

Analytical Method:	TPH by SV							Prep Method	l: SW8	3015P			
Seq Number:	3108876]	Matrix:	Soil				Date Prep	p: 11.2	6.19	
Parent Sample Id:	arent Sample Id: 644426-005				MS Sample Id: 644426-005 S			S MSD Sample Id: 644426-005 SD					
Parameter		Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RP	D RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarb	ons (GRO)	< 50.3	1010	930	92	1010	100	70-135	8	35	mg/kg	11.26.19 13:08	
Diesel Range Organics	(DRO)	<50.3	1010	1140	113	1180	117	70-135	3	35	mg/kg	11.26.19 13:08	
Surrogate					IS Rec	MS Flag	MSE %Re			Limits	Units	Analysis Date	

Surrogue	%Rec Flag	%Rec Flag			Date
1-Chlorooctane	126	130	70-135	%	11.26.19 13:08
o-Terphenyl	128	129	70-135	%	11.26.19 13:08

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

LCS = Laboratory Control Sample A = Parent Result C = MS/LCS Result E = MSD/LCSD Result MS = Matrix Spike B = Spike Added D = MSD/LCSD % Rec



BORATORIES



LT Environmental, Inc.

Swearingen #1 SWD

Analytical Method: Seq Number: MB Sample Id:	BTEX by EPA 802 3108829 7691183-1-BLK	B		Matrix: nple Id:	Solid 7691183-1	I-BKS			Prep Metho Date Pre SD Sample	p: 11.2	5030B 6.19 1183-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPI) RPD Limi	t Units	Analysis Date	Flag
Benzene	< 0.00200	0.100	0.0841	84	0.0821	82	70-130	2	35	mg/kg	11.26.19 15:24	
Toluene	< 0.00200	0.100	0.0826	83	0.0816	82	70-130	1	35	mg/kg	11.26.19 15:24	
Ethylbenzene	< 0.00200	0.100	0.0800	80	0.0794	79	71-129	1	35	mg/kg	11.26.19 15:24	
m,p-Xylenes	< 0.00400	0.200	0.169	85	0.169	85	70-135	0	35	mg/kg	11.26.19 15:24	
o-Xylene	< 0.00200	0.100	0.0865	87	0.0857	86	71-133	1	35	mg/kg	11.26.19 15:24	
Surrogate	MB %Rec	MB Flag		CS Rec	LCS Flag	LCSI %Re			Limits	Units	Analysis Date	
1,4-Difluorobenzene	103		1	01		100		-	70-130	%	11.26.19 15:24	
4-Bromofluorobenzene	103		1	01		101		-	70-130	%	11.26.19 15:24	

Analytical Method: Seq Number:	BTEX by EPA 802 1 3108829	B		Matrix:			Prep Meth Date Pr		5030B 6.19	
Parent Sample Id:	644426-001		MS San	nple Id:	644426-001 S					
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec		Limits		Units	Analysis Date	Flag
Benzene	< 0.00200	0.100	0.104	104		70-130		mg/kg	11.26.19 16:02	
Toluene	< 0.00200	0.100	0.102	102		70-130		mg/kg	11.26.19 16:02	
Ethylbenzene	< 0.00200	0.100	0.0980	98		71-129		mg/kg	11.26.19 16:02	
m,p-Xylenes	< 0.00100	0.200	0.207	104		70-135		mg/kg	11.26.19 16:02	
o-Xylene	< 0.00200	0.100	0.106	106		71-133		mg/kg	11.26.19 16:02	
Surrogate				1S Rec	MS Flag		Limits	Units	Analysis Date	
1,4-Difluorobenzene			1	06			70-130	%	11.26.19 16:02	
4-Bromofluorobenzene			1	11			70-130	%	11.26.19 16:02	

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

LCS = Laboratory Control Sample A = Parent Result C = MS/LCS Result E = MSD/LCSD Result MS = Matrix Spike B = Spike Added D = MSD/LCSD % Rec

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Final 1.000

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc. Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 11/25/2019 11:25:00 AM Temperature Measuring device used : T-NM-007 Work Order #: 644426 Comments Sample Receipt Checklist .2 #1 *Temperature of cooler(s)? #2 *Shipping container in good condition? Yes #3 *Samples received on ice? Yes #4 *Custody Seals intact on shipping container/ cooler? Yes #5 Custody Seals intact on sample bottles? Yes #6*Custody Seals Signed and dated? Yes #7 *Chain of Custody present? Yes #8 Any missing/extra samples? No #9 Chain of Custody signed when relinquished/ received? Yes #10 Chain of Custody agrees with sample labels/matrix? Yes #11 Container label(s) legible and intact? Yes #12 Samples in proper container/ bottle? Yes #13 Samples properly preserved? Yes #14 Sample container(s) intact? Yes #15 Sufficient sample amount for indicated test(s)? Yes #16 All samples received within hold time? Yes

#17 Subcontract of sample(s)?

#18 Water VOC samples have zero headspace?

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

Analyst:

PH Device/Lot#:

Checklist completed by: Elizabeth McClellan

Date: 11/25/2019

No

N/A

Checklist reviewed by: Jession Vramer

Jessica Kramer

Date: 11/26/2019



Analytical Report 644427

for

LT Environmental, Inc.

Project Manager: Chris McKisson

Swearingen #1 SWD

034819038

06.23.2020

Collected By: Client

1089 N Canal Street Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122): Texas (T104704215-20-34), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054) Oklahoma (2019-058), North Carolina (681), Arkansas (20-035-0)

> Xenco-Dallas (EPA Lab Code: TX01468): Texas (T104704295-20-25), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-17) Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22) Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19) Xenco-Carlsbad (LELAP): Louisiana (05092) Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-7) Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757) Xenco-Tampa: Florida (E87429), North Carolina (483)



06.23.2020

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

Reference: XENCO Report No(s): 644427 Swearingen #1 SWD Project Address: Rural Eddy County

Chris McKisson:

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) 644427. 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. 644427 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,

Jession Vermer

Jessica Kramer Project Manager

A Small Business and Minority Company

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



Sample Id BG01

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LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

I	Matrix	Date Collected	Sample Depth	Lab Sample Id
	S	11.23.2019 12:40	3 ft	644427-001





Client Name: LT Environmental, Inc. Project Name: Swearingen #1 SWD

 Project ID:
 034819038

 Work Order Number(s):
 644427

Report Date: 06.23.2020 Date Received: 11.25.2019

Sample receipt non conformances and comments:

V1.001 revision (client email) Corrected project name. JK 06/23/20

Sample receipt non conformances and comments per sample:

None



034819038

Chris McKisson

Rural Eddy County



Project Id:

Project Location:

Contact:

Certificate of Analysis Summary 644427

LT Environmental, Inc., Arvada, CO

Project Name: Swearingen #1 SWD

Date Received in Lab: Mon 11.25.2019 11:25 **Report Date:** 06.23.2020 09:09 Project Manager: Jessica Kramer

	Lab Id:	644427-001			
	Field Id:	BG01			
Analysis Requested	Depth:	3- ft			
	Matrix:	SOIL			
	Sampled:	11.23.2019 12:40			
Chloride by EPA 300	Extracted:	11.25.2019 18:11			
	Analyzed:	11.25.2019 23:18			
	Units/RL:	mg/kg RL			
Chloride		1300 50.4			

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

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

fession Vermer

Jessica Kramer Project Manager

Page 1 of 9

Page 114 of 172



Page 115 of 172

Certificate of Analytical Results 644427

LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id: BG01 Lab Sample Id: 644427-001		Matrix: Date Collecte	Soil d: 11.23.2019 12:40		Date Received Sample Depth		9 11:25
Analytical Method: Chloride by EPA Tech: MAB	300				Prep Method: % Moisture:	E300P	
Analyst: MAB		Date Prep:	11.25.2019 18:11		Basis:	Wet Weigl	ht
Seq Number: 3108699							
Parameter	Cas Number	Result RI	_	Units	Analysis D	ate Flag	g Dil

Chloride

.

16887-00-6 **1300**

50.4

mg/kg 11.25.2019 23:18



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.	ND Not Detected			
RL Reporting Limit				
MDL Method Detection Limit	SDL Sample De	tection Limit	LOD Limit of Detection	
PQL Practical Quantitation Limit	MQL Method Qu	antitation Limit	LOQ Limit of Quantitatio	n
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/Labo	ratory Control Sample Duplicate
MD/SD Method Duplicate/Samp	ple Duplicate	MS	Matrix Spike	MSD: Matrix Spike Duplicate
+ NELAC certification not offered	l for this compound.			

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

Parent

Result

40.4

Spike

202

Amount

MS

254

Result

MS

106

%Rec



Parameter

Chloride

QC Summary 644427

LT Environmental, Inc.

Swearingen #1 SWD

Analytical Method: Seq Number: MB Sample Id:	Chloride by EPA 3 3108699 7691178-1-BLK	00		Matrix: nple Id:	Solid 7691178-	1-BKS			ep Metho Date Pro D Sample	ep: 11.2	0P 5.2019 1178-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	259	104	257	103	90-110	1	20	mg/kg	11.25.2019 17:00	
Analytical Method:	Chloride by EPA 3	00						Pı	ep Metho	od: E30	0P	
Seq Number:	3108699			Matrix:	Soil				Date Pre	ep: 11.2	5.2019	
Parent Sample Id:	644389-021		MS Sar	nple Id:	644389-02	21 S		MS	D Sample	Id: 644	389-021 SD	

MSD

Result

251

MSD

%Rec

Limits

105 90-110

%RPD

1

RPD

Limit

20

Units

mg/kg

Analysis

Date 11.25.2019 20:48 Flag

MS/MSD Percent Recovery Relative Percent Difference LCS/LCSD Recovery Log Difference $\label{eq:c-A} \begin{array}{l} [D] = 100^{*}(C\text{-A}) \ / \ B \\ RPD = 200^{*} \ | \ (C\text{-E}) \ / \ (C\text{+E}) \ | \\ [D] = 100^{*} \ (C) \ / \ [B] \\ Log \ Diff. = Log(Sample \ Duplicate) \ - \ Log(Original \ Sample) \end{array}$

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

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

Chain of Custody Neutric RD PATIERE Neutric RD	Revised Date 022619 Rev. 2019.1			σ			-		eceived by (
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Page 9 of 9

for

LT Environmental, Inc.

Project Manager: Chris McKisson

Swearingen #1 SWD

034819038

08-JAN-20

Collected By: Client



1089 N Canal Street Carlsbad, NM 88220

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

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

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



08-JAN-20

Project Manager: Chris McKisson LT Environmental, Inc. 4600 W. 60th Avenue Arvada, CO 80003

Reference: XENCO Report No(s): 646527 Swearingen #1 SWD Project Address: Rural Eddy County

Chris McKisson:

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) 646527. 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. 646527 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Vramer

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



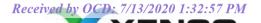
Sample Cross Reference 646527

LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH07	S	12-13-19 09:50	4 ft	646527-001
PH07A	S	12-13-19 10:00	6 ft	646527-002
PH08	S	12-13-19 13:15	7 ft	646527-003
PH08A	S	12-13-19 13:20	8 ft	646527-004
PH09	S	12-13-19 13:45	2 ft	646527-005
PH09A	S	12-13-19 14:23	9 ft	646527-006

.



CASE NARRATIVE

Client Name: LT Environmental, Inc. Project Name: Swearingen #1 SWD

 Project ID:
 034819038

 Work Order Number(s):
 646527

Report Date: 08-JAN-20 Date Received: 12/16/2019

Sample receipt non conformances and comments:

Per clients email, corrected sample names as follows below. new version generated. JK 01/08/2020 PH05 To PH07 PH05A To PH07A PH06 To PH08 PH06A To PH08A PH07 To PH09 PH07A To PH09A

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments: Batch: LBA-3110714 BTEX by EPA 8021B Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Batch: LBA-3110716 Chloride by EPA 300

Lab Sample ID 646531-006 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Chloride recovered below QC limits in the Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 646527-001, -002, -003, -004, -005, -006. The Laboratory Control Sample for Chloride is within laboratory Control Limits, therefore the data was accepted.

Batch: LBA-3110737 TPH by SW8015 Mod

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

Samples affected are: 646527-004.



Project Id: 034819038

Project Id:034819038Contact:Chris McKissonProject Location:Rural Eddy County

Certificate of Analysis Summary 646527

LT Environmental, Inc., Arvada, CO Project Name: Swearingen #1 SWD

Date Received in Lab:Mon Dec-16-19 04:10 pmReport Date:08-JAN-20Project Manager:Jessica Kramer

	Lab Id:	646527-0	001	646527-	002	646527-0	003	646527-	004	646527-	005	646527-	006
Anglusis Degrasted	Field Id:	PH07		PH07A	\	PH08		PH08A	4	PH09		PH094	4
Analysis Requested	Depth:	4- ft		6- ft		7- ft		8- ft		2- ft		9- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	,	SOIL	
	Sampled:	Dec-13-19	09:50	Dec-13-19	10:00	Dec-13-19	13:15	Dec-13-19	13:20	Dec-13-19	13:45	Dec-13-19	14:23
BTEX by EPA 8021B	Extracted:	Dec-16-19	17:29	Dec-16-19	17:29	Dec-16-19	17:29	Dec-16-19	17:29	Dec-16-19	17:29	Dec-16-19	17:29
	Analyzed:	Dec-17-19	02:17	Dec-17-19	02:36	Dec-17-19	02:55	Dec-17-19	03:14	Dec-17-19	03:33	Dec-17-19	01:57
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		< 0.00199	0.00199	< 0.00196	0.00196	< 0.00196	0.00196	< 0.00200	0.00200	< 0.00202	0.00202	< 0.00199	0.00199
Toluene		< 0.00199	0.00199	< 0.00196	0.00196	< 0.00196	0.00196	< 0.00200	0.00200	< 0.00202	0.00202	< 0.00199	0.00199
Ethylbenzene		< 0.00199	0.00199	< 0.00196	0.00196	< 0.00196	0.00196	< 0.00200	0.00200	< 0.00202	0.00202	< 0.00199	0.00199
m,p-Xylenes		< 0.00398	0.00398	< 0.00393	0.00393	< 0.00393	0.00393	< 0.00399	0.00399	< 0.00403	0.00403	< 0.00398	0.00398
o-Xylene		< 0.00199	0.00199	< 0.00196	0.00196	< 0.00196	0.00196	< 0.00200	0.00200	< 0.00202	0.00202	< 0.00199	0.00199
Xylenes, Total		<0.00199 0.00199		< 0.00196	0.00196	< 0.00196	0.00196	< 0.00200	0.00200	< 0.00202	0.00202	< 0.00199	0.00199
Total BTEX		<0.00199 0.00199		< 0.00196	0.00196	< 0.00196	0.00196	< 0.00200	0.00200	< 0.00202	0.00202	< 0.00199	0.00199
Chloride by EPA 300	Extracted:	Dec-16-19	19:38	Dec-16-19 19:38		Dec-16-19	19:38	Dec-16-19	19:38	Dec-16-19 19:38		Dec-16-19 19:38	
	Analyzed:	Dec-16-19	21:38	Dec-16-19 21:57		Dec-16-19 22:03		Dec-16-19	22:09	Dec-16-19	22:15	Dec-16-19	22:34
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		2160	9.98	2510	10.1	186	10.0	552	10.0	1140	10.1	303	9.88
TPH by SW8015 Mod	Extracted:	Dec-16-19	17:00	Dec-16-19	17:00	Dec-16-19	17:00	Dec-16-19	17:00	Dec-16-19	17:00	Dec-16-19	17:00
	Analyzed:	Dec-16-19	20:45	Dec-16-19	21:04	Dec-16-19	21:04	Dec-16-19	22:04	Dec-16-19	22:24	Dec-16-19	22:44
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<50.0	50.0	<50.2	50.2	<49.8	49.8	<49.9	49.9	<50.0	50.0
Diesel Range Organics (DRO)		<50.0	50.0	<50.0	50.0	<50.2	50.2	<49.8	49.8	<49.9	49.9	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<50.0	50.0	<50.2	50.2	<49.8	49.8	<49.9	49.9	<50.0	50.0
Total GRO-DRO		<50.0	50.0	<50.0	50.0	<50.2	50.2	<49.8	49.8	<49.9	49.9	<50.0	50.0
Total TPH		<50.0	50.0	<50.0	50.0	<50.2	50.2	<49.8	49.8	<49.9	49.9	<50.0	50.0

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

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Jessica Kramer Project Assistant

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Certificate of Analytical Results 646527

LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Lab Sample Id: 64652		Date Colle	ected: 12.13.19 09.50	;	Sample Depth: 4 ft		
•	hloride by EPA 300						
	-]	Prep Method: E30	0P	
Tech: MAB				,	% Moisture:		
Analyst: MAB		Date Prep	: 12.16.19 19.38	!	Basis: Wet	t Weight	
Seq Number: 31107	6						
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2160	9.98	mg/kg	12.16.19 21.38		1

Analytical Method: TPH by SW801	5 Mod				Р	Prep Method: SW	8015P	
Tech: DTH					%	6 Moisture:		
Analyst: DTH		Date Pre	p: 12.16	.19 17.00	В	Basis: We	t Weight	
Seq Number: 3110729								
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0		mg/kg	12.16.19 20.45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0		mg/kg	12.16.19 20.45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0		mg/kg	12.16.19 20.45	U	1
Total GRO-DRO	PHC628	<50.0	50.0		mg/kg	12.16.19 20.45	U	1
Total TPH	PHC635	<50.0	50.0		mg/kg	12.16.19 20.45	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	125	%	70-135	12.16.19 20.45		
o-Terphenyl		84-15-1	128	%	70-135	12.16.19 20.45		



Certificate of Analytical Results 646527

LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id: PH07	Matrix: Soil	Date Received:12.16.19 16.10
Lab Sample Id: 646527-001	Date Collected: 12.13.19 09.50	Sample Depth: 4 ft
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B
Tech: MAB		% Moisture:
Analyst: MAB	Date Prep: 12.16.19 17.29	Basis: Wet Weight
Seq Number: 3110714		

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00199	0.00199		mg/kg	12.17.19 02.17	U	1
Toluene	108-88-3	< 0.00199	0.00199		mg/kg	12.17.19 02.17	U	1
Ethylbenzene	100-41-4	< 0.00199	0.00199		mg/kg	12.17.19 02.17	U	1
m,p-Xylenes	179601-23-1	< 0.00398	0.00398		mg/kg	12.17.19 02.17	U	1
o-Xylene	95-47-6	< 0.00199	0.00199		mg/kg	12.17.19 02.17	U	1
Xylenes, Total	1330-20-7	< 0.00199	0.00199		mg/kg	12.17.19 02.17	U	1
Total BTEX		< 0.00199	0.00199		mg/kg	12.17.19 02.17	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	100	%	70-130	12.17.19 02.17		
4-Bromofluorobenzene		460-00-4	116	%	70-130	12.17.19 02.17		



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Certificate of Analytical Results 646527

LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id:	Sample Id: PH07A			Soil	Date Received:12.16.19 16.10				
Lab Sample I	ld: 646527-002		Date Coll	lected: 12.13.19 10.00	Sample Depth: 6 ft				
Analytical M	ethod: Chloride by EP	A 300			I	Prep Method: E30	00P		
Tech:	MAB				ç	% Moisture:			
Analyst:	MAB		Date Prep	b: 12.16.19 19.38	I	Basis: We	t Weight		
Seq Number:	3110716								
Parameter		Cas Number	Result	RL	Units	Analysis Date	Flag	Dil	
Chloride		16887-00-6	2510	10.1	mg/kg	12.16.19 21.57		1	

Analytical Method: TPH by SW80	Prep Method: SW8015P					V8015P		
Tech: DTH					9	6 Moisture:		
Analyst: DTH		Date Pre	p: 12.16	.19 17.00	E	Basis: We	et Weight	
Seq Number: 3110729								
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0		mg/kg	12.16.19 21.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0		mg/kg	12.16.19 21.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0		mg/kg	12.16.19 21.04	U	1
Total GRO-DRO	PHC628	<50.0	50.0		mg/kg	12.16.19 21.04	U	1
Total TPH	PHC635	<50.0	50.0		mg/kg	12.16.19 21.04	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	120	%	70-135	12.16.19 21.04		
o-Terphenyl		84-15-1	124	%	70-135	12.16.19 21.04		



Certificate of Analytical Results 646527

LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id: PH07A	Matrix: Soil	Date Received:12.16.19 16.10		
Lab Sample Id: 646527-002	Date Collected: 12.13.19 10.00	Sample Depth: 6 ft		
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B		
Tech: MAB		% Moisture:		
Analyst: MAB	Date Prep: 12.16.19 17.29	Basis: Wet Weight		
Seq Number: 3110714				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00196	0.00196		mg/kg	12.17.19 02.36	U	1
Toluene	108-88-3	< 0.00196	0.00196		mg/kg	12.17.19 02.36	U	1
Ethylbenzene	100-41-4	< 0.00196	0.00196		mg/kg	12.17.19 02.36	U	1
m,p-Xylenes	179601-23-1	< 0.00393	0.00393		mg/kg	12.17.19 02.36	U	1
o-Xylene	95-47-6	< 0.00196	0.00196		mg/kg	12.17.19 02.36	U	1
Xylenes, Total	1330-20-7	< 0.00196	0.00196		mg/kg	12.17.19 02.36	U	1
Total BTEX		< 0.00196	0.00196		mg/kg	12.17.19 02.36	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	122	%	70-130	12.17.19 02.36		
1,4-Difluorobenzene		540-36-3	103	%	70-130	12.17.19 02.36		



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Certificate of Analytical Results 646527

LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id: Lab Sample Id:	PH08 : 646527-003		Matrix: Date Collect	Soil ted: 12.13.19 13.15	Date Received:12.16.19 16.10 Sample Depth: 7 ft)
Tech: Analyst:	thod: Chloride by EPA MAB MAB 3110716	300	Date Prep:	12.16.19 19.38		Prep Method: % Moisture: Basis:	E300P Wet Weight	
Parameter		Cas Number	Result	RL	Units	Analysis Da	ate Flag	Dil
Chloride		16887-00-6	186	10.0	mg/kg	12.16.19 22.	03	1
Analytical Met	thod: TPH by SW8015 DTH		186	10.0	mg/kg	12.16.19 22. Prep Method: % Moisture:		1

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2		mg/kg	12.16.19 21.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2		mg/kg	12.16.19 21.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2		mg/kg	12.16.19 21.04	U	1
Total GRO-DRO	PHC628	<50.2	50.2		mg/kg	12.16.19 21.04	U	1
Total TPH	PHC635	<50.2	50.2		mg/kg	12.16.19 21.04	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	119	%	70-135	12.16.19 21.04		
o-Terphenyl		84-15-1	122	%	70-135	12.16.19 21.04		



Certificate of Analytical Results 646527

LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id: PH08	Matrix: Soil	Date Received:12.16.19 16.10			
Lab Sample Id: 646527-003	Date Collected: 12.13.19 13.15	Sample Depth: 7 ft			
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B			
Tech: MAB		% Moisture:			
Analyst: MAB	Date Prep: 12.16.19 17.29	Basis: Wet Weight			
Seq Number: 3110714					

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00196	0.00196		mg/kg	12.17.19 02.55	U	1
Toluene	108-88-3	< 0.00196	0.00196		mg/kg	12.17.19 02.55	U	1
Ethylbenzene	100-41-4	< 0.00196	0.00196		mg/kg	12.17.19 02.55	U	1
m,p-Xylenes	179601-23-1	< 0.00393	0.00393		mg/kg	12.17.19 02.55	U	1
o-Xylene	95-47-6	< 0.00196	0.00196		mg/kg	12.17.19 02.55	U	1
Xylenes, Total	1330-20-7	< 0.00196	0.00196		mg/kg	12.17.19 02.55	U	1
Total BTEX		< 0.00196	0.00196		mg/kg	12.17.19 02.55	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	107	%	70-130	12.17.19 02.55		
4-Bromofluorobenzene		460-00-4	129	%	70-130	12.17.19 02.55		



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Certificate of Analytical Results 646527

LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id:	PH08A		Matrix:	Soil	Date Received:12.16.19 16.10				
Lab Sample I	ld: 646527-004		Date Coll	ected: 12.13.19 13.20	Sample Depth: 8 ft				
Analytical M	ethod: Chloride by EF	A 300]	Prep Method: E30	00P		
Tech:	MAB				Q	% Moisture:			
Analyst:	MAB		Date Prep	: 12.16.19 19.38]	Basis: We	t Weight		
Seq Number:	3110716								
Parameter		Cas Number	Result	RL	Units	Analysis Date	Flag	Dil	
Chloride		16887-00-6	552	10.0	mg/kg	12.16.19 22.09		1	

Analytical Method: TPH by SW801	5 Mod	Prep Method: SW8015P						
Tech: DTH					%	6 Moisture:		
Analyst: DTH		Date Pre	p: 12.16	.19 17.00	В	asis: We	et Weight	
Seq Number: 3110737								
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8		mg/kg	12.16.19 22.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8		mg/kg	12.16.19 22.04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8		mg/kg	12.16.19 22.04	U	1
Total GRO-DRO	PHC628	<49.8	49.8		mg/kg	12.16.19 22.04	U	1
Total TPH	PHC635	<49.8	49.8		mg/kg	12.16.19 22.04	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	134	%	70-135	12.16.19 22.04		
o-Terphenyl		84-15-1	144	%	70-135	12.16.19 22.04	**	



Certificate of Analytical Results 646527

LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id: PH08A	Matrix: Soil	Date Received:12.16.19 16.10		
Lab Sample Id: 646527-004	Date Collected: 12.13.19 13.20	Sample Depth: 8 ft		
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B		
Tech: MAB		% Moisture:		
Analyst: MAB	Date Prep: 12.16.19 17.29	Basis: Wet Weight		
Seq Number: 3110714				

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	12.17.19 03.14	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	12.17.19 03.14	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	12.17.19 03.14	U	1
m,p-Xylenes	179601-23-1	< 0.00399	0.00399		mg/kg	12.17.19 03.14	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	12.17.19 03.14	U	1
Xylenes, Total	1330-20-7	< 0.00200	0.00200		mg/kg	12.17.19 03.14	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	12.17.19 03.14	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	128	%	70-130	12.17.19 03.14		
1,4-Difluorobenzene		540-36-3	105	%	70-130	12.17.19 03.14		



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Certificate of Analytical Results 646527

LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id:	PH09		Matrix:	Soil		Date Received:12	.16.19 16.10)
Lab Sample I	d: 646527-005		Date Colle	cted: 12.13.19 13.45		Sample Depth: 2 f	ť	
Analytical Me	ethod: Chloride by EPA	300				Prep Method: E3	00P	
Tech:	MAB					% Moisture:		
Analyst:	MAB		Date Prep:	12.16.19 19.38		Basis: We	et Weight	
Seq Number:	3110716							
Parameter		Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	1140	10.1	mg/kg	12.16.19 22.15		1

Analytical Method: TPH by SW801	5 Mod				Р	rep Method: SW	/8015P	
Tech: DTH					%	6 Moisture:		
Analyst: DTH		Date Pre	p: 12.16	.19 17.00	В	asis: We	t Weight	
Seq Number: 3110737								
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9		mg/kg	12.16.19 22.24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9		mg/kg	12.16.19 22.24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9		mg/kg	12.16.19 22.24	U	1
Total GRO-DRO	PHC628	<49.9	49.9		mg/kg	12.16.19 22.24	U	1
Total TPH	PHC635	<49.9	49.9		mg/kg	12.16.19 22.24	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	120	%	70-135	12.16.19 22.24		
o-Terphenyl		84-15-1	125	%	70-135	12.16.19 22.24		



Certificate of Analytical Results 646527

LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id: PH09	Matrix: Soil	Date Received:12.16.19 16.10			
Lab Sample Id: 646527-005	Date Collected: 12.13.19 13.45	Sample Depth: 2 ft			
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B			
Tech: MAB		% Moisture:			
Analyst: MAB	Date Prep: 12.16.19 17.29	Basis: Wet Weight			
Seq Number: 3110714					

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00202	0.00202		mg/kg	12.17.19 03.33	U	1
Toluene	108-88-3	< 0.00202	0.00202		mg/kg	12.17.19 03.33	U	1
Ethylbenzene	100-41-4	< 0.00202	0.00202		mg/kg	12.17.19 03.33	U	1
m,p-Xylenes	179601-23-1	< 0.00403	0.00403		mg/kg	12.17.19 03.33	U	1
o-Xylene	95-47-6	< 0.00202	0.00202		mg/kg	12.17.19 03.33	U	1
Xylenes, Total	1330-20-7	< 0.00202	0.00202		mg/kg	12.17.19 03.33	U	1
Total BTEX		< 0.00202	0.00202		mg/kg	12.17.19 03.33	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	118	%	70-130	12.17.19 03.33		
1,4-Difluorobenzene		540-36-3	102	%	70-130	12.17.19 03.33		



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Certificate of Analytical Results 646527

LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id:	PH09A		Matrix:	Soil		Date Received:12.	16.19 16.1	0
Lab Sample I	d: 646527-006		Date Colle	cted: 12.13.19 14.23		Sample Depth: 9 ft		
Analytical Me	ethod: Chloride by EPA	300				Prep Method: E30	00P	
Tech:	MAB					% Moisture:		
Analyst:	MAB		Date Prep:	12.16.19 19.38		Basis: We	t Weight	
Seq Number:	3110716							
Parameter		Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	303	9.88	mg/kg	12.16.19 22.34		1

Analytical Method: TPH by SW801	5 Mod				Р	Prep Method: SW	/8015P	
Tech: DTH					%	6 Moisture:		
Analyst: DTH		Date Pre	p: 12.16.	19 17.00	В	Basis: We	t Weight	
Seq Number: 3110737								
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0		mg/kg	12.16.19 22.44	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0		mg/kg	12.16.19 22.44	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0		mg/kg	12.16.19 22.44	U	1
Total GRO-DRO	PHC628	<50.0	50.0		mg/kg	12.16.19 22.44	U	1
Total TPH	PHC635	<50.0	50.0		mg/kg	12.16.19 22.44	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane		111-85-3	119	%	70-135	12.16.19 22.44		
o-Terphenyl		84-15-1	128	%	70-135	12.16.19 22.44		



Certificate of Analytical Results 646527

LT Environmental, Inc., Arvada, CO

Swearingen #1 SWD

Sample Id: PH09A	Matrix: Soil	Date Received:12.16.19 16.10			
Lab Sample Id: 646527-006	Date Collected: 12.13.19 14.23	Sample Depth: 9 ft			
Analytical Method: BTEX by EPA 8021B		Prep Method: SW5030B			
Tech: MAB		% Moisture:			
Analyst: MAB	Date Prep: 12.16.19 17.29	Basis: Wet Weight			
Seq Number: 3110714					

Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00199	0.00199		mg/kg	12.17.19 01.57	U	1
Toluene	108-88-3	< 0.00199	0.00199		mg/kg	12.17.19 01.57	U	1
Ethylbenzene	100-41-4	< 0.00199	0.00199		mg/kg	12.17.19 01.57	U	1
m,p-Xylenes	179601-23-1	< 0.00398	0.00398		mg/kg	12.17.19 01.57	U	1
o-Xylene	95-47-6	< 0.00199	0.00199		mg/kg	12.17.19 01.57	U	1
Xylenes, Total	1330-20-7	< 0.00199	0.00199		mg/kg	12.17.19 01.57	U	1
Total BTEX		< 0.00199	0.00199		mg/kg	12.17.19 01.57	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	99	%	70-130	12.17.19 01.57		
4-Bromofluorobenzene		460-00-4	111	%	70-130	12.17.19 01.57		



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 LimitSDLSample Detection LimitLOD Limit of Detection
- PQL Practical Quantitation Limit MQL Method Quantitation Limit LOQ Limit of Quantitation
- DL Method Detection Limit
- NC Non-Calculable

SMP Clie	ent Sample	BLK	Method Blank	
BKS/LCS	S Blank Spike/Laboratory Control Sample	BKSD/LCSD	Blank Spike Duplicate/Labo	ratory 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.

Swearingen #1 SWD

Analytical Method:	Chloride by EPA 3	00						Pi	ep Method	i: E30	0P	
Seq Number:	3110716		Matrix: Solid			Date Prep: 12.16.19						
MB Sample Id:	1				LCS Sample Id: 7692583-1-BKS			LCSD Sample Id: 7692583-1-BSD				
Parameter MB Spike Result Amount			LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	265	106	264	106	90-110	0	20	mg/kg	12.16.19 21:25	

Analytical Method:	Chloride by EPA 3	00						Prep Meth	od: E30	90P	
Seq Number:	3110716			Matrix:	Soil			Date P	rep: 12.	16.19	
Parent Sample Id:	646527-001		MS Sample Id: 646527-001 S			01 S		MSD Sampl	5527-001 SD		
Parameter	Parent	Spike	MS	MS	MCD	MOD	Limits	%RPD RPD Lin	it Unita	Analysia	
1 urumeter	Result	Amount	Result	%Rec	MSD Result	MSD %Rec	Linits	76KED KED Lill	Int Units	Analysis Date	Flag

Analytical Method:	Chloride by EPA 30)0						P	rep Metho	od: E30	0P	
Seq Number:	3110716			Matrix:	Soil				Date Pr	ep: 12.1	6.19	
Parent Sample Id:	646531-006		MS Sar	nple Id:	646531-00)6 S		MS	D Sample	e Id: 646	531-006 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Lim	it Units	Analysis Date	Flag
Chloride	174	198	394	111	396	112	90-110	1	20	mg/kg	12.16.19 23:19	Х

Analytical Method:	TPH by S	W8015 M	od]	Prep Metho	d: SW8	3015P	
Seq Number:	3110729 Matrix: Solid Date Prep: 12.16.19												
MB Sample Id:	7692584-1	-BLK		LCS Sar	nple Id:	7692584-	1-BKS		LC	SD Sample	Id: 7692	2584-1-BSD	
Parameter		MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPI) RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbo	ons (GRO)	< 50.0	1000	1110	111	1140	114	70-135	3	35	mg/kg	12.16.19 17:07	
Diesel Range Organics ((DRO)	<50.0	1000	1190	119	1200	120	70-135	1	35	mg/kg	12.16.19 17:07	
Surrogate		MB %Rec	MB Flag		CS Rec	LCS Flag	LCSI %Ree			Limits	Units	Analysis Date	
1-Chlorooctane		126		1	29		130		,	70-135	%	12.16.19 17:07	
o-Terphenyl		135		1	30		133		,	70-135	%	12.16.19 17:07	

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

LCS = Laboratory Control Sample A = Parent Result C = MS/LCS Result E = MSD/LCSD Result MS = Matrix Spike B = Spike Added D = MSD/LCSD % Rec





QC Summary 646527

LT Environmental, Inc.

Swearingen #1 SWD

						cumgen							
Analytical Method:	TPH by SV	V8015 M	od						I	Prep Method	l: SW	/8015P	
Seq Number:	3110737				Matrix:	Solid				Date Prep	p: 12.	16.19	
MB Sample Id:	7692589-1-	BLK		LCS Sar	nple Id:	7692589-	1-BKS		LCS	SD Sample l	ld: 769	92589-1-BSD	
Parameter		MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbo	ns (GRO)	< 50.0	1000	1010	101	978	98	70-135	3	35	mg/kg	12.16.19 21:44	
Diesel Range Organics (I	DRO)	<50.0	1000	861	86	840	84	70-135	2	35	mg/kg	12.16.19 21:44	
Surrogate		MB %Rec	MB Flag		CS Rec	LCS Flag	LCSE %Rec			Limits	Units	Analysis Date	
1-Chlorooctane		123		1	14		112		7	70-135	%	12.16.19 21:44	
o-Terphenyl		128		0	99		95		7	70-135	%	12.16.19 21:44	
Analytical Method: Seq Number:	TPH by SV 3110729	W8015 M	od	MB Sar	Matrix: nple Id:	Solid 7692584-	1-BLK		I	Prep Method Date Prep		78015P 16.19	
Parameter				MB Result							Units	Analysis Date	Flag
Motor Oil Range Hydrocarb	ons (MRO)			<50.0							mg/kg	12.16.19 17:07	
Analytical Method: Seq Number: Parameter Motor Oil Range Hydrocarbo	3110737	V8015 M	od		Matrix: nple Id:	Solid 7692589-	1-BLK		I	Prep Method Date Prep		78015P 16.19 Analysis Date 12.16.19 21:24	Flag
1	TPH by SV 3110729 646503-004		od Spike Amount		MS	646503-00 MSD	MSD	Limits	MS	Prep Method Date Prep SD Sample 1 RPD Limit	o: 12. [d: 646	78015P 16.19 5503-004 SD Analysis Date	Flag
Gasoline Range Hydrocarbo	ns (GRO)	<50.2	1000	1310	%Rec 131	Result 1140	%Rec 113	70-135	14	35	mg/kg	12.16.19 17:47	
Diesel Range Organics (I		<11.5	1000	1430	143			70-135	33	35	mg/kg	12.16.19 17:47	Х
Surrogate					/IS Rec	MS Flag	MSD %Rec			Limits	Units	Analysis Date	
1-Chlorooctane				1	29		116		7	70-135	%	12.16.19 17:47	
- 1					~ .		~		_			10.14.10.15	

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

o-Terphenyl

[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

96

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

.

12.16.19 17:47

134

70-135

%





QC Summary 646527

LT Environmental, Inc.

Swearingen #1 SWD

Analytical Method:	TPH by S	W8015 M	lod						Р	rep Method	d: SW8	8015P				
Seq Number:	3110737				Matrix:	Soil			Date Prep: 12.16.19							
Parent Sample Id:	646527-00)4		MS Sar	nple Id:	646527-0	04 S		MS	D Sample	Id: 646	527-004 SD				
Parameter		Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag			
Gasoline Range Hydrocarb	oons (GRO)	< 50.2	1000	926	93	981	98	70-135	6	35	mg/kg	12.16.19 22:04				
Diesel Range Organics	(DRO)	< 50.2	1000	1040	104	859	86	70-135	19	35	mg/kg	12.16.19 22:04				
Surrogate					/IS Rec	MS Flag	MSD %Re		_	imits	Units	Analysis Date				
1-Chlorooctane				9	9 9		117		7	0-135	%	12.16.19 22:04				
o-Terphenyl				9	€7		104		7	0-135	%	12.16.19 22:04				

Analytical Method: Seq Number: MB Sample Id:	BTEX by EPA 802 3110714 7692580-1-BLK	Prep Method Date Prep SD Sample	p: 12.1									
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPI) RPD Limit	Units	Analysis Date	Flag
Benzene	< 0.00200	0.100	0.0910	91	0.0961	96	70-130	5	35	mg/kg	12.17.19 00:15	
Toluene	< 0.00200	0.100	0.0926	93	0.0984	98	70-130	6	35	mg/kg	12.17.19 00:15	
Ethylbenzene	< 0.00200	0.100	0.0920	92	0.0974	97	71-129	6	35	mg/kg	12.17.19 00:15	
m,p-Xylenes	< 0.00400	0.200	0.194	97	0.206	103	70-135	6	35	mg/kg	12.17.19 00:15	
o-Xylene	< 0.00200	0.100	0.0979	98	0.105	105	71-133	7	35	mg/kg	12.17.19 00:15	
Surrogate	MB %Rec	MB Flag			LCS Flag	LCSE %Rec			Limits	Units	Analysis Date	
1,4-Difluorobenzene	105		1	02		104			70-130	%	12.17.19 00:15	
4-Bromofluorobenzene	102		1	14		119			70-130	%	12.17.19 00:15	

Analytical Method: Seq Number: Parent Sample Id:	BTEX by EPA 802 3110714 646527-006	1B	MS San	Matrix: nple Id:		06 S			Prep Metho Date Pre SD Sample	5030B 6.19 527-006 SD		
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPI	ORPD Limit	Units	Analysis Date	Flag
Benzene	< 0.00198	0.0992	0.104	105	0.0936	94	70-130	11	35	mg/kg	12.17.19 00:54	
Toluene	< 0.00198	0.0992	0.107	108	0.0956	96	70-130	11	35	mg/kg	12.17.19 00:54	
Ethylbenzene	< 0.00198	0.0992	0.105	106	0.0944	95	71-129	11	35	mg/kg	12.17.19 00:54	
m,p-Xylenes	< 0.00397	0.198	0.222	112	0.199	100	70-135	11	35	mg/kg	12.17.19 00:54	
o-Xylene	< 0.00198	0.0992	0.113	114	0.101	102	71-133	11	35	mg/kg	12.17.19 00:54	
Surrogate				1S Rec	MS Flag	MSD %Ree			Limits	Units	Analysis Date	
1,4-Difluorobenzene			1	01		104			70-130	%	12.17.19 00:54	
4-Bromofluorobenzene			1	20		121		,	70-130	%	12.17.19 00:54	

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

ved by OCD: 7/1 Unne Byers			_	Total 200 7 / 2010		PHOTA	- tend	PHDGA	HUSH	CHOS	ID Sample Identification	Sample Custody Seals: Yes	Yes	Received Intart:			Sampler's Name: Anna P		Project Number: 1944Q10 220	0	Vtb	Rifi	028	L+	Project Manager: Chris	LABORATOR
Clelle	Received by: (Signature)	sument of samples constitutes a valid purchase or t of samples and shall not assume any responsibili pplied to each project and a charge of \$5 for each	buzu: 8RCRA 13PPM) to be analyzed TCLP / SPLP 6010:			S V 1422	S 1345		S i S	5 12/13/19 09 50	Matrix Date Time Sampled Sampled	NIA Total Containers:	I/A Correction Factor:	Thermometer ID	Temp Blank: (es) No Wet Ice:	Quote #:	BUES Due Date:	5	AD TOWN		Gaac	CA 8/1052	Megan Ave Unita	Environmental	McKisson	с С
-10 2 4		of service. Xence 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 applied to each project and a charge of \$5 for each sample submitted to Xenco.	13PPM Texas 11 AI Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb P 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se						6' 1 \ \	41 11 1	Numb TPI BTE Ciulo	+ (i =x	epf (e1	ainer:	3013 80	5) zí			Around	Email: Cmetisson (alteri, com 4abyers @lterik on	City, State ZIP:	Address:		Company Name	Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701	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 Crasibad, NM (432) 704-5440
Revised Date 022619 Rev. 2019.1	Received hy: (Signature)		Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti Sn U V Zn Se Ag Ti U 1631/245.1/7470 /7471 :								Sample Comments	TAT starts the day received by the lab, if received by 4:00nm	Zn Acetate+ NaOH: Zn	NaOH: Na		HNO3: HN	None: NO	MeOH: Me	EQUEST Preservative Codes	Deliverables: EDD ADaPT Other:	Reporting:Level II CLevel III PST/UST TRRP Level IV	State of Project:	Program: UST/PST PRP Brownfields RRC Superfund	Work Order Comments	561) 689-6701 <u>www.xenco.com</u> Page	2) 704-5440

Final 1.001

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc. Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient Date/ Time Received: 12/16/2019 04:10:00 PM Temperature Measuring device used : T-NM-007 Work Order #: 646527 Comments Sample Receipt Checklist 1.4 #1 *Temperature of cooler(s)? #2 *Shipping container in good condition? Yes #3 *Samples received on ice? Yes #4 *Custody Seals intact on shipping container/ cooler? Yes #5 Custody Seals intact on sample bottles? Yes #6*Custody Seals Signed and dated? Yes #7 *Chain of Custody present? Yes #8 Any missing/extra samples? No #9 Chain of Custody signed when relinquished/ received? Yes #10 Chain of Custody agrees with sample labels/matrix? Yes #11 Container label(s) legible and intact? Yes

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

Analyst:

PH Device/Lot#:

#12 Samples in proper container/ bottle?

#16 All samples received within hold time?

#15 Sufficient sample amount for indicated test(s)?

#18 Water VOC samples have zero headspace?

#13 Samples properly preserved?

#14 Sample container(s) intact?

#17 Subcontract of sample(s)?

Checklist completed by: Elizabeth McClellan

Date: 12/16/2019

Yes

Yes

Yes

Yes

Yes

No

N/A

Checklist reviewed by: Jession Vramer

Jessica Kramer

Date: 12/17/2019



Analytical Report 657712

for

LT Environmental, Inc.

Project Manager: Chris McKisson

Swearingen SWD#1

034819038

04.06.2020

Collected By: Client

1089 N Canal Street Carlsbad, NM 88220

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

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

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



04.06.2020

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

Reference: XENCO Report No(s): 657712 Swearingen SWD#1 Project Address: Eddy County

Chris McKisson:

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) 657712. 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. 657712 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,

Jession Vermer

Jessica Kramer Project Manager

A Small Business and Minority Company

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Sample Id SB01 SB02 SB03A SB03A SB04A SB05A SB05A SB05A SB06 SB06A

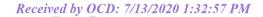
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Sample Cross Reference 657712

LT Environmental, Inc., Arvada, CO

Swearingen SWD#1

Matrix	Date Collected	Sample Depth	Lab Sample Id
S	04.01.2020 09:22	10 - 12.2 ft	657712-001
S	04.01.2020 12:00	10 - 12.2 ft	657712-002
S	04.01.2020 13:20	2 - 3.5 ft	657712-003
S	04.01.2020 14:25	10 - 10.5 ft	657712-004
S	04.01.2020 15:00	2 - 2.3 ft	657712-005
S	04.01.2020 15:27	10 - 10.5 ft	657712-006
S	04.02.2020 09:30	2 - 3.5 ft	657712-007
S	04.02.2020 09:45	10 - 10.3 ft	657712-008
S	04.02.2020 08:45	2 - 2.5 ft	657712-009
S	04.02.2020 09:05	10 - 10.5 ft	657712-010





Client Name: LT Environmental, Inc. Project Name: Swearingen SWD#1

 Project ID:
 034819038

 Work Order Number(s):
 657712

 Report Date:
 04.06.2020

 Date Received:
 04.02.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments: Batch: LBA-3121960 BTEX by EPA 8021B Soil samples were not received in Terracore kits and therefore were prepared by method 5030.



Certificate of Analysis Summary 657712

LT Environmental, Inc., Arvada, CO

Project Name: Swearingen SWD#1

Page 146 of 172

Project Id:034819038Contact:Chris McKisson

Project Location: Eddy County

 Date Received in Lab:
 Thu 04.02.2020 11:00

 Report Date:
 04.06.2020 13:49

 Project Manager:
 Jessica Kramer

Lab Id: 657712-001 657712-002 657712-003 657712-004 657712-005 657712-006 Field Id: SB01 **SB02** SB03 SB03A **SB04** SB04A Analysis Requested Depth: 10-12.2 ft 10-12.2 ft 2-3.5 ft 10-10.5 ft 2-2.3 ft 10-10.5 ft Matrix: SOIL SOIL SOIL SOIL SOIL SOIL 04.01.2020 12:00 Sampled: 04.01.2020 09:22 04.01.2020 13:20 04.01.2020 14:25 04.01.2020 15:00 04.01.2020 15:27 BTEX by EPA 8021B 04.04.2020 13:40 04.04.2020 13:40 04.04.2020 13:40 04.04.2020 13:40 04.04.2020 13:40 04.04.2020 13:40 Extracted: Analyzed: 04.04.2020 20:55 04.04.2020 21:15 04.04.2020 21:36 04.04.2020 22:57 04.04.2020 23:18 04.04.2020 23:38 RL mg/kg RL RL RL RL RL Units/RL: mg/kg mg/kg mg/kg mg/kg mg/kg < 0.00198 < 0.00199 0.00199 < 0.00202 < 0.00200 0.00200 < 0.00199 0.00199 < 0.00200 0.00200 0.00198 0.00202 Benzene 0.00200 < 0.00198 0.00198 < 0.00199 0.00199 < 0.00202 0.00202 < 0.00200 0.00200 < 0.00199 0.00199 Toluene < 0.00200 0.00200 < 0.00198 < 0.00200 0.00198 < 0.00199 0.00199 < 0.00202 0.00202 < 0.00200 0.00200 < 0.00199 0.00199 Ethylbenzene < 0.00400 0.00400 < 0.00396 0.00396 < 0.00398 0.00398 < 0.00404 0.00404 < 0.00399 0.00399 < 0.00398 0.00398 m,p-Xylenes < 0.00200 < 0.00202 0.00200 o-Xylene < 0.00200 0.00200 < 0.00198 0.00198 < 0.00199 0.00199 0.00202 < 0.00199 0.00199 0.00200 0.00198 0.00199 < 0.00202 0.00202 < 0.00200 0.00200 0.00199 < 0.00200 < 0.00198 < 0.00199 < 0.00199 Xylenes, Total Total BTEX < 0.00200 0.00200 < 0.00198 0.00198 < 0.00199 0.00199 < 0.00202 0.00202 < 0.00200 0.00200 < 0.00199 0.00199 Chloride by EPA 300 Extracted: 04.04.2020 10:05 04.04.2020 10:05 04.04.2020 10:05 04.04.2020 10:05 04.04.2020 10:05 04.04.2020 10:05 04.04.2020 18:48 04.04.2020 19:08 04.04.2020 19:14 04.04.2020 19:20 04.04.2020 19:27 04.04.2020 19:46 Analyzed: RL RL RL RL RL RL Units/RL: mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg Chloride 1130 9.94 1570 9.98 1770 9.94 520 9.92 1670 9.94 358 9.98 TPH by SW8015 Mod Extracted: 04.03.2020 18:15 04.03.2020 18:15 04.03.2020 18:15 04.03.2020 18:15 04.03.2020 18:15 04.03.2020 18:15 Analyzed: 04.06.2020 03:59 04.06.2020 04:19 04.06.2020 04:39 04.06.2020 05:20 04.06.2020 05:40 04.06.2020 06:00 RL mg/kg RL RL RL RL mg/kg RL Units/RL: mg/kg mg/kg mg/kg mg/kg Gasoline Range Hydrocarbons (GRO) < 50.150.1 <49.9 49.9 < 50.3 50.3 < 50.3 50.3 < 50.0 50.0 < 50.1 50.1 50.3 Diesel Range Organics (DRO) < 50.150.1 <49.9 49.9 < 50.3 < 50.3 50.3 < 50.0 50.0 < 50.1 50.1 Motor Oil Range Hydrocarbons (MRO) < 50.1 50.1 49.9 < 50.3 50.3 <50.3 50.3 < 50.0 50.0 < 50.1 50.1 <49.9 Total GRO-DRO < 50.1 50.1 <49.9 49.9 < 50.3 50.3 < 50.3 50.3 < 50.0 50.0 < 50.1 50.1 Total TPH <50.3 < 50.1 50.1 <49.9 49.9 < 50.3 50.3 50.3 < 50.0 50.0 < 50.1 50.1

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

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

Jession Vermer

Jessica Kramer Project Manager

Page 5 of 31

034819038

Chris McKisson

Eddy County



Project Id:

Project Location:

Contact:

Certificate of Analysis Summary 657712

LT Environmental, Inc., Arvada, CO

Project Name: Swearingen SWD#1

 Date Received in Lab:
 Thu 04.02.2020 11:00

 Report Date:
 04.06.2020 13:49

 Project Manager:
 Jessica Kramer

	Lab Id:	657712-0	07	657712-0	08	657712-0)09	657712-0	010	
Analysis Requested	Field Id:	SB05		SB05A	x	SB06		SB06A		
Analysis Requested	Depth:	2-3.5 ft	:	10-10.3	ft	2-2.5 f	t	10-10.5	ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL	,	
	Sampled:	04.02.2020	09:30	04.02.2020	09:45	04.02.2020	08:45	04.02.2020	09:05	
BTEX by EPA 8021B	Extracted:	04.04.2020	13:40	04.04.2020	13:40	04.04.2020	13:40	04.04.2020	13:40	
	Analyzed:	04.04.2020	23:59	04.05.2020	00:19	04.05.2020	00:39	04.05.2020	01:00	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
Benzene		< 0.00200	0.00200	< 0.00198	0.00198	< 0.00198	0.00198	< 0.00200	0.00200	
Toluene		< 0.00200	0.00200	< 0.00198	0.00198	< 0.00198	0.00198	< 0.00200	0.00200	
Ethylbenzene		< 0.00200	0.00200	< 0.00198	0.00198	< 0.00198	0.00198	< 0.00200	0.00200	
m,p-Xylenes		< 0.00399	0.00399	< 0.00396	0.00396	< 0.00395	0.00395	< 0.00401	0.00401	
o-Xylene		< 0.00200	0.00200	< 0.00198	0.00198	< 0.00198	0.00198	< 0.00200	0.00200	
Xylenes, Total		< 0.00200	0.00200	< 0.00198	0.00198	< 0.00198	0.00198	< 0.00200	0.00200	
Total BTEX		< 0.00200	0.00200	< 0.00198	0.00198	< 0.00198	0.00198	< 0.00200	0.00200	
Chloride by EPA 300	Extracted:	04.04.2020	10:05	04.04.2020	10:05	04.04.2020	10:05	04.04.2020	10:05	
	Analyzed:	04.04.2020	19:52	04.04.2020	19:59	04.04.2020	20:05	04.04.2020	20:12	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
Chloride		340	10.0	551	9.98	4420	50.2	919	9.98	
TPH by SW8015 Mod	Extracted:	04.03.2020	18:15	04.03.2020	18:15	04.03.2020	18:15	04.03.2020	18:15	
	Analyzed:	04.06.2020	06:20	04.06.2020	06:40	04.06.2020	07:01	04.06.2020	07:21	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<50.1	50.1	<49.9	49.9	<49.9	49.9	
Diesel Range Organics (DRO)		<49.9	49.9	<50.1	50.1	<49.9	49.9	<49.9	49.9	
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<50.1	50.1	<49.9	49.9	<49.9	49.9	
Total GRO-DRO		<49.9	49.9	<50.1	50.1	<49.9	49.9	<49.9	49.9	
Total TPH		<49.9	49.9	<50.1	50.1	<49.9	49.9	<49.9	49.9	

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

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Jession KRAMER

Jessica Kramer Project Manager

Final 1.000



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Certificate of Analytical Results 657712

LT Environmental, Inc., Arvada, CO

Swearingen SWD#1

	Cas Number	Result	RL	Units	Analysis Date	e Flag	Di
3121982							
MAB		Date Prep	: 04.04.2020 10:05		Basis:	Wet Weight	
MAB					% Moisture:		
thod: Chloride by EPA	300				Prep Method: 1	E300P	
: 657712-001		Date Coll	ected: 04.01.2020 09:22		Sample Depth: 10 - 12.2 ft		
SB01		Matrix:	Soil		Date Received:	04.02.2020 11	:00
t	: 657712-001 hod: Chloride by EPA MAB MAB	: 657712-001 hod: Chloride by EPA 300 MAB MAB	And ControlDate Collectionhod:Chloride by EPA 300MABDate Prep	: 657712-001 Date Collected: 04.01.2020 09:22 hod: Chloride by EPA 300 MAB MAB Date Prep: 04.04.2020 10:05	baseline Date Collected: 04.01.2020 09:22 hod: Chloride by EPA 300 MAB Date Prep: 04.04.2020 10:05	and the constructionDate Collected: 04.01.2020 09:22Sample Depth:and the constructionDate Collected: 04.01.2020 09:22Sample Depth:bodyPrep Method:Prep Method:MAB% Moisture:MABDate Prep:04.04.2020 10:05Basis:%	accelerationDate Collected: 04.01.2020 09:22Sample Depth: 10 - 12.2 fthod: Chloride by EPA 300Prep Method: E300PMAB% Moisture:MABDate Prep:04.04.2020 10:05Basis:Wet Weight

Analytical Method: TPH by SW801	5 Mod					Prep Method: S	W8015P	
Tech: DTH						% Moisture:		
Analyst: DTH		Date P	rep: 04.	03.2020 18:15		Basis: W	Vet Weight	
Seq Number: 3122009								
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1		mg/kg	04.06.2020 03:5	9 U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1		mg/kg	04.06.2020 03:5	9 U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1		mg/kg	04.06.2020 03:5	9 U	1
Total GRO-DRO	PHC628	<50.1	50.1		mg/kg	04.06.2020 03:5	9 U	1
Total TPH	PHC635	<50.1	50.1		mg/kg	04.06.2020 03:5	9 U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Da	te Flag	
1-Chlorooctane		111-85-3	105	%	70-135	04.06.2020 03	:59	
o-Terphenyl		84-15-1	107	%	70-135	04.06.2020 03	:59	

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Certificate of Analytical Results 657712

LT Environmental, Inc., Arvada, CO

Swearingen SWD#1

Sample Id:SB01Lab Sample Id:657712-001	Matrix:	Soil	Date Received:04.02.2020 11:00				
	Date Collecte	d: 04.01.2020 09:22	Sample Depth: 10 - 12.2 ft				
Analytical Method:BTEX by EPA 8021BTech:MABAnalyst:MABSeq Number:3121960	Date Prep:	04.04.2020 13:40	Prep Metho % Moisture Basis:	d: SW5030B : Wet Weight			

Parameter	Cas Number	r Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	04.04.2020 20:55	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	04.04.2020 20:55	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	04.04.2020 20:55	U	1
m,p-Xylenes	179601-23-1	< 0.00400	0.00400		mg/kg	04.04.2020 20:55	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	04.04.2020 20:55	U	1
Xylenes, Total	1330-20-7	< 0.00200	0.00200		mg/kg	04.04.2020 20:55	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	04.04.2020 20:55	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	103	%	70-130	04.04.2020 20:55		
4-Bromofluorobenzene		460-00-4	91	%	70-130	04.04.2020 20:55		



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Certificate of Analytical Results 657712

LT Environmental, Inc., Arvada, CO

Swearingen SWD#1

Sample Id:	SB02		Matrix:	So	il		Date Receiv	ved:04.0	2.2020 11	:00
Lab Sample I	d: 657712-002		Date Co	llected: 04	.01.2020 12:00		Sample De	pth: 10 -	12.2 ft	
Analytical M	ethod: Chloride by El	PA 300					Prep Metho	od: E30	0P	
Tech:	MAB						% Moisture	:		
Analyst:	MAB		Date Pre	ep: 04	.04.2020 10:05		Basis:	Wet	Weight	
Seq Number:	3121982			-						
Parameter		Cas Number	Result	RL		Units	Analysis	Date	Flag	Dil
Chloride		16887-00-6	1570	9.98		mg/kg	04.04.2020) 19:08		1

Analytical Method: TPH by SW801	5 Mod					Prep Method: S	SW8015P	
Tech: DTH						% Moisture:		
Analyst: DTH		Date P	rep: 04	.03.2020 18:15		Basis: V	Wet Weight	
Seq Number: 3122009								
Parameter	Cas Number	Result	RL		Units	Analysis Date	e Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9		mg/kg	04.06.2020 04:1	9 U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9		mg/kg	04.06.2020 04:1	9 U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9		mg/kg	04.06.2020 04:1	9 U	1
Total GRO-DRO	PHC628	<49.9	49.9		mg/kg	04.06.2020 04:1	9 U	1
Total TPH	PHC635	<49.9	49.9		mg/kg	04.06.2020 04:1	9 U	1
Surrogate		Cas Number	% Recover	y Units	Limits	Analysis Da	ate Flag	
1-Chlorooctane		111-85-3	105	%	70-135	04.06.2020 04	4:19	
o-Terphenyl		84-15-1	108	%	70-135	04.06.2020 04	4:19	

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Certificate of Analytical Results 657712

LT Environmental, Inc., Arvada, CO

Swearingen SWD#1

Sample Id: SB02 Lab Sample Id: 657712-002	Matrix: Date Collecte	Soil ed: 04.01.2020 12:00		ed:04.02.2020 11:00 th: 10 - 12.2 ft
Analytical Method: BTEX by EPA 8021B Tech: MAB			Prep Method % Moisture:	l: SW5030B
Analyst:MABSeq Number:3121960	Date Prep:	04.04.2020 13:40	Basis:	Wet Weight

Parameter	Cas Numbe	r Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00198	0.00198		mg/kg	04.04.2020 21:15	U	1
Toluene	108-88-3	< 0.00198	0.00198		mg/kg	04.04.2020 21:15	U	1
Ethylbenzene	100-41-4	< 0.00198	0.00198		mg/kg	04.04.2020 21:15	U	1
m,p-Xylenes	179601-23-1	< 0.00396	0.00396		mg/kg	04.04.2020 21:15	U	1
o-Xylene	95-47-6	< 0.00198	0.00198		mg/kg	04.04.2020 21:15	U	1
Xylenes, Total	1330-20-7	< 0.00198	0.00198		mg/kg	04.04.2020 21:15	U	1
Total BTEX		< 0.00198	0.00198		mg/kg	04.04.2020 21:15	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	107	%	70-130	04.04.2020 21:15		
4-Bromofluorobenzene		460-00-4	97	%	70-130	04.04.2020 21:15		



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Certificate of Analytical Results 657712

LT Environmental, Inc., Arvada, CO

Swearingen SWD#1

SB03		Matrix:	Soil		Date Received	1:04.02.2020	11:00
657712-003		Date Coll	lected: 04.01.2020 13	3:20	Sample Depth	: 2 - 3.5 ft	
od: Chloride by EPA	300				Prep Method:	E300P	
MAB					% Moisture:		
MAB		Date Prep	b: 04.04.2020 10	0:05	Basis:	Wet Weigh	t
3121982							
	Cas Number	Result	RL	Units	Analysis Da	ate Flag	Dil
	16887-00-6	1770	9.94	mg/kg	04.04.2020 19	9:14	1
	657712-003 od: Chloride by EPA : MAB MAB	657712-003 od: Chloride by EPA 300 MAB MAB 3121982 Cas Number	657712-003 Date Coll od: Chloride by EPA 300 MAB MAB Date Prep 3121982 Cas Number Result	657712-003 Date Collected: 04.01.2020 13 od: Chloride by EPA 300 MAB Date Prep: 04.04.2020 16 3121982 Cas Number Result RL	657712-003 Date Collected: 04.01.2020 13:20 od: Chloride by EPA 300 MAB MAB Date Prep: 04.04.2020 10:05 3121982 Cas Number Result RL Units	657712-003 Date Collected: 04.01.2020 13:20 Sample Depth od: Chloride by EPA 300 Prep Method: MAB Date Prep: 04.04.2020 10:05 Basis: 0121982 Cas Number Result RL Units Analysis Date	657712-003 Date Collected: 04.01.2020 13:20 Sample Depth: 2 - 3.5 ft od: Chloride by EPA 300 Prep Method: E300P MAB % Moisture: MAB Date Prep: 04.04.2020 10:05 Basis: Wet Weigh S121982 Cas Number RL Units Analysis Date Flag

Analytical Method: TPH by SW802	15 Mod					Prep Method: S	W8015P	
Tech: DTH						% Moisture:		
Analyst: DTH		Date P	rep: 04.	03.2020 18:15		Basis: V	Vet Weight	
Seq Number: 3122009								
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3		mg/kg	04.06.2020 04:3	9 U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3		mg/kg	04.06.2020 04:3	9 U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3		mg/kg	04.06.2020 04:3	9 U	1
Total GRO-DRO	PHC628	<50.3	50.3		mg/kg	04.06.2020 04:3	9 U	1
Total TPH	PHC635	<50.3	50.3		mg/kg	04.06.2020 04:3	9 U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Da	ite Flag	
1-Chlorooctane		111-85-3	110	%	70-135	04.06.2020 04	:39	
o-Terphenyl	:	84-15-1	115	%	70-135	04.06.2020 04	:39	

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LT Environmental, Inc., Arvada, CO

Swearingen SWD#1

Sample Id:SB03Lab Sample Id:657712-003	Matrix: Date Collecte	Soil d: 04.01.2020 13:20	Date Received:04.02.2020 11:00 Sample Depth: 2 - 3.5 ft			
Analytical Method: BTEX by EPA 8021B Tech: MAB			Prep Method: % Moisture:	SW5030B		
Analyst:MABSeq Number:3121960	Date Prep:	04.04.2020 13:40	Basis:	Wet Weight		

Parameter	Cas Number	r Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00199	0.00199		mg/kg	04.04.2020 21:36	U	1
Toluene	108-88-3	< 0.00199	0.00199		mg/kg	04.04.2020 21:36	U	1
Ethylbenzene	100-41-4	< 0.00199	0.00199		mg/kg	04.04.2020 21:36	U	1
m,p-Xylenes	179601-23-1	< 0.00398	0.00398		mg/kg	04.04.2020 21:36	U	1
o-Xylene	95-47-6	< 0.00199	0.00199		mg/kg	04.04.2020 21:36	U	1
Xylenes, Total	1330-20-7	< 0.00199	0.00199		mg/kg	04.04.2020 21:36	U	1
Total BTEX		< 0.00199	0.00199		mg/kg	04.04.2020 21:36	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	92	%	70-130	04.04.2020 21:36		
1,4-Difluorobenzene		540-36-3	106	%	70-130	04.04.2020 21:36		



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LT Environmental, Inc., Arvada, CO

Swearingen SWD#1

	520	9.92	mg/kg	04.04.2020 1			1
Cas Number	Result	RL	Units	Analysis D	ate	Flag	Dil
3121982							
MAB	Date Prep:	04.04.2020 10:05		Basis:	Wet	Weight	
MAB				% Moisture:			
thod: Chloride by EPA 300				Prep Method:	E300)P	
l: 657712-004	Date Collec	cted: 04.01.2020 14:25		Sample Depth	:10 -	10.5 ft	
SB03A	Matrix:	Soil		Date Received	1:04.0	2.2020 11	:00
SB03	A	A Matrix:	A Matrix: Soil	A Matrix: Soil	A Matrix: Soil Date Received	A Matrix: Soil Date Received:04.02	A Matrix: Soil Date Received:04.02.2020 11

Analytical Method: TPH by SW801	5 Mod					Prep Method: S	W8015P	
Tech: DTH Analyst: DTH		Date P	ren: 04.	03.2020 18:15		% Moisture: Basis: V	Vet Weight	
Seq Number: 3122009		Dute	iop. •					
Parameter	Cas Number	r Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3		mg/kg	04.06.2020 05:2	0 U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3		mg/kg	04.06.2020 05:2	0 U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3		mg/kg	04.06.2020 05:2	0 U	1
Total GRO-DRO	PHC628	<50.3	50.3		mg/kg	04.06.2020 05:2	0 U	1
Total TPH	PHC635	<50.3	50.3		mg/kg	04.06.2020 05:2	0 U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Da	ite Flag	
1-Chlorooctane		111-85-3	99	%	70-135	04.06.2020 05	:20	
o-Terphenyl		84-15-1	101	%	70-135	04.06.2020 05	:20	



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LT Environmental, Inc., Arvada, CO

Swearingen SWD#1

Sample Id:SB03ALab Sample Id:657712-004	Matrix: Date Collecte	Soil ed: 04.01.2020 14:25	Date Receive Sample Deptl	d:04.02.2020 11:00 h: 10 - 10.5 ft
Analytical Method: BTEX by EPA 8021B Tech: MAB			Prep Method: % Moisture:	: SW5030B
Analyst: MAB Seq Number: 3121960	Date Prep:	04.04.2020 13:40	Basis:	Wet Weight

Parameter	Cas Number	r Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00202	0.00202		mg/kg	04.04.2020 22:57	U	1
Toluene	108-88-3	< 0.00202	0.00202		mg/kg	04.04.2020 22:57	U	1
Ethylbenzene	100-41-4	< 0.00202	0.00202		mg/kg	04.04.2020 22:57	U	1
m,p-Xylenes	179601-23-1	< 0.00404	0.00404		mg/kg	04.04.2020 22:57	U	1
o-Xylene	95-47-6	< 0.00202	0.00202		mg/kg	04.04.2020 22:57	U	1
Xylenes, Total	1330-20-7	< 0.00202	0.00202		mg/kg	04.04.2020 22:57	U	1
Total BTEX		< 0.00202	0.00202		mg/kg	04.04.2020 22:57	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	107	%	70-130	04.04.2020 22:57		
4-Bromofluorobenzene		460-00-4	95	%	70-130	04.04.2020 22:57		



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LT Environmental, Inc., Arvada, CO

Swearingen SWD#1

MAB 3121982	Cas Number	Date Prep Result	p: 04.04.2020 10:05	Units	Basis: Analysis Da		Weight Flag	Dil
		Date Prep	p: 04.04.2020 10:05		Basis:	Wet V	Weight	
MAB		Date Prep	b: 04.04.2020 10:05		Basis:	Wet V	Weight	
MAB					% Moisture:			
od: Chloride by EPA	300				Prep Method:	E300	Р	
657712-005		Date Coll	ected: 04.01.2020 15:00		Sample Depth	n: 2 - 2.	3 ft	
SB04		Matrix:	Soil		Date Received	1:04.02	2.2020 11	:00
l	657712-005 od: Chloride by EPA	657712-005 od: Chloride by EPA 300	657712-005 Date Coll od: Chloride by EPA 300	657712-005 Date Collected: 04.01.2020 15:00 od: Chloride by EPA 300	657712-005 Date Collected: 04.01.2020 15:00 od: Chloride by EPA 300	657712-005Date Collected: 04.01.2020 15:00Sample Depthod:Chloride by EPA 300Prep Method:	657712-005Date Collected: 04.01.2020 15:00Sample Depth: 2 - 2.od: Chloride by EPA 300Prep Method: E300	657712-005Date Collected: 04.01.2020 15:00Sample Depth: 2 - 2.3 ftod: Chloride by EPA 300Prep Method: E300P

Analytical Method: TPH by SW801	5 Mod					Prep Method: S	W8015P	
Tech: DTH						% Moisture:		
Analyst: DTH		Date P	rep: 04.0	03.2020 18:15		Basis: W	et Weight	
Seq Number: 3122009								
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0		mg/kg	04.06.2020 05:40) U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0		mg/kg	04.06.2020 05:40) U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0		mg/kg	04.06.2020 05:40) U	1
Total GRO-DRO	PHC628	<50.0	50.0		mg/kg	04.06.2020 05:40) U	1
Total TPH	PHC635	<50.0	50.0		mg/kg	04.06.2020 05:40) U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Da	te Flag	
1-Chlorooctane		111-85-3	105	%	70-135	04.06.2020 05	40	
o-Terphenyl	:	84-15-1	109	%	70-135	04.06.2020 05	40	

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LT Environmental, Inc., Arvada, CO

Swearingen SWD#1

Sample Id: SB04 Lab Sample Id: 657712-005	Matrix: Date Collecte	Soil ed: 04.01.2020 15:00	Date Received Sample Depth	d:04.02.2020 11:00 n: 2 - 2.3 ft
Analytical Method: BTEX by EPA 8021B Tech: MAB			Prep Method: % Moisture:	SW5030B
Analyst:MABSeq Number:3121960	Date Prep:	04.04.2020 13:40	Basis:	Wet Weight

Parameter	Cas Numbe	r Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	04.04.2020 23:18	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	04.04.2020 23:18	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	04.04.2020 23:18	U	1
m,p-Xylenes	179601-23-1	< 0.00399	0.00399		mg/kg	04.04.2020 23:18	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	04.04.2020 23:18	U	1
Xylenes, Total	1330-20-7	< 0.00200	0.00200		mg/kg	04.04.2020 23:18	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	04.04.2020 23:18	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	94	%	70-130	04.04.2020 23:18		
1,4-Difluorobenzene		540-36-3	108	%	70-130	04.04.2020 23:18		



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Certificate of Analytical Results 657712

LT Environmental, Inc., Arvada, CO

Swearingen SWD#1

Sample Id: Lab Sample Id	SB04A d: 657712-006		Matrix: Date Col	Soil llected: 04.01.2020 1	5:27	Date Received: Sample Depth:		:00
Analytical Me Tech:	ethod: Chloride by EPA MAB	A 300				Prep Method: 7 % Moisture:	E300P	
Analyst:	MAB		Date Pre	p: 04.04.2020 10	0:05		Wet Weight	
Seq Number:	3121982			1				
Parameter		Cas Number	Result	RL	Units	Analysis Dat	te Flag	Dil
Chloride		16887-00-6	358	9.98	mg/kg	04.04.2020 19:	46	1

Analytical Method: TPH by SW801	5 Mod					Prep Method: S	W8015P	
Tech: DTH						% Moisture:		
Analyst: DTH		Date P	rep: 04	4.03.2020 18:15		Basis: W	Vet Weight	
Seq Number: 3122009								
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1		mg/kg	04.06.2020 06:0	0 U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1		mg/kg	04.06.2020 06:0	0 U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1		mg/kg	04.06.2020 06:0	0 U	1
Total GRO-DRO	PHC628	<50.1	50.1		mg/kg	04.06.2020 06:0	0 U	1
Total TPH	PHC635	<50.1	50.1		mg/kg	04.06.2020 06:0	0 U	1
Surrogate		Cas Number	% Recover	y Units	Limits	Analysis Da	ite Flag	
1-Chlorooctane		111-85-3	106	%	70-135	04.06.2020 06	:00	
o-Terphenyl		84-15-1	109	%	70-135	04.06.2020 06	:00	

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LT Environmental, Inc., Arvada, CO

Swearingen SWD#1

Sample Id:SB04ALab Sample Id:657712-006	Matrix: Soil Date Collected: 04.01.2020 15:27	Date Received:04.02.2020 11:00 Sample Depth: 10 - 10.5 ft
Analytical Method:BTEX by EPA 8021BTech:MABAnalyst:MABSeq Number:3121960	Date Prep: 04.04.2020 13:40	Prep Method:SW5030B% Moisture:Basis:Wet Weight

Parameter	Cas Numbe	r Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00199	0.00199		mg/kg	04.04.2020 23:38	U	1
Toluene	108-88-3	< 0.00199	0.00199		mg/kg	04.04.2020 23:38	U	1
Ethylbenzene	100-41-4	< 0.00199	0.00199		mg/kg	04.04.2020 23:38	U	1
m,p-Xylenes	179601-23-1	< 0.00398	0.00398		mg/kg	04.04.2020 23:38	U	1
o-Xylene	95-47-6	< 0.00199	0.00199		mg/kg	04.04.2020 23:38	U	1
Xylenes, Total	1330-20-7	< 0.00199	0.00199		mg/kg	04.04.2020 23:38	U	1
Total BTEX		< 0.00199	0.00199		mg/kg	04.04.2020 23:38	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	107	%	70-130	04.04.2020 23:38		
4-Bromofluorobenzene		460-00-4	92	%	70-130	04.04.2020 23:38		



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Certificate of Analytical Results 657712

LT Environmental, Inc., Arvada, CO

Swearingen SWD#1

Analytical Method: Chloric Tech: MAB Analyst: MAB	e by EPA 300				Prep Method: E30	00P	
Seq Number: 3121982		Date Pre	p: 04.04.2020 10:05		% Moisture: Basis: We	t Weight	
Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	340	10.0	mg/kg	04.04.2020 19:52		1

5 Mod					Prep Method: S	W8015P	
					% Moisture:		
	Date P	rep: 04.	.03.2020 18:15		Basis: V	Vet Weight	
Cas Number	e Result	RL		Units	Analysis Date	Flag	Dil
PHC610	<49.9	49.9		mg/kg	04.06.2020 06:2	0 U	1
C10C28DRO	<49.9	49.9		mg/kg	04.06.2020 06:2	0 U	1
PHCG2835	<49.9	49.9		mg/kg	04.06.2020 06:2	0 U	1
PHC628	<49.9	49.9		mg/kg	04.06.2020 06:2	0 U	1
PHC635	<49.9	49.9		mg/kg	04.06.2020 06:2	0 U	1
	Cas Number	% Recovery	y Units	Limits	Analysis Da	ite Flag	
	111-85-3	100	%	70-135	04.06.2020 06	:20	
	84-15-1	104	%	70-135	04.06.2020 06	:20	
	Cas Number PHC610 C10C28DRO PHCG2835 PHC628	Cas Number Result PHC610 <49.9	Cas Number Result RL PHC610 <49.9	Date Prep: 04.03.2020 18:15 Cas Number Result RL PHC610 <49.9	Date Prep: 04.03.2020 18:15 Cas Number Result RL Units PHC610 <49.9	Cas Number Result RL Units Analysis Date PHC610 <49.9	Cas Number Result RL Units Analysis Date Flag PHC610 <49.9

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Certificate of Analytical Results 657712

LT Environmental, Inc., Arvada, CO

Swearingen SWD#1

Sample Id:SB05Lab Sample Id:657712-007	Matrix: Soil Date Collected: 04.0		Date Received: Sample Depth:	04.02.2020 11:00 2 - 3.5 ft
Analytical Method: BTEX by EPA 8021B Tech: MAB			Prep Method: % Moisture:	SW5030B
Analyst:MABSeq Number:3121960	Date Prep: 04.0	4.2020 13:40	Basis:	Wet Weight

Parameter	Cas Numbe	er Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	04.04.2020 23:59	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	04.04.2020 23:59	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	04.04.2020 23:59	U	1
m,p-Xylenes	179601-23-1	< 0.00399	0.00399		mg/kg	04.04.2020 23:59	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	04.04.2020 23:59	U	1
Xylenes, Total	1330-20-7	< 0.00200	0.00200		mg/kg	04.04.2020 23:59	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	04.04.2020 23:59	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	106	%	70-130	04.04.2020 23:59		
4-Bromofluorobenzene		460-00-4	95	%	70-130	04.04.2020 23:59		



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Certificate of Analytical Results 657712

LT Environmental, Inc., Arvada, CO

Swearingen SWD#1

Sample Id:	SB05A Id: 657712-008		Matrix:	Soil llected: 04.02.2020 0	0.45	Date Received:04.		.00
Lao Sample	iu: 657/12-008		Date Co	billected: 04.02.2020 09:45 Sample Depth: 10 - 10.3 ft			- 10.5 It	
Analytical M	ethod: Chloride by H	EPA 300				Prep Method: E3	00P	
Tech:	MAB					% Moisture:		
Analyst:	MAB		Date Pre	ep: 04.04.2020 1	0:05	Basis: We	et Weight	
Seq Number:	3121982							
Parameter		Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride		16887-00-6	551	9.98	mg/kg	04.04.2020 19:59		1

Analytical Method: TPH by SW801	5 Mod					Prep Method: S	W8015P	
Tech: DTH						% Moisture:		
Analyst: DTH		Date P	rep: 04	4.03.2020 18:15		Basis: W	et Weight	
Seq Number: 3122009								
Parameter	Cas Number	r Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1		mg/kg	04.06.2020 06:40) U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1		mg/kg	04.06.2020 06:40) U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1		mg/kg	04.06.2020 06:40) U	1
Total GRO-DRO	PHC628	<50.1	50.1		mg/kg	04.06.2020 06:40) U	1
Total TPH	PHC635	<50.1	50.1		mg/kg	04.06.2020 06:40) U	1
Surrogate		Cas Number	% Recover	y Units	Limits	Analysis Dat	te Flag	
1-Chlorooctane		111-85-3	104	%	70-135	04.06.2020 06:	40	
o-Terphenyl		84-15-1	107	%	70-135	04.06.2020 06:	40	

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ORATORIES



Certificate of Analytical Results 657712

LT Environmental, Inc., Arvada, CO

Swearingen SWD#1

Sample Id:SB05ALab Sample Id:657712-008	Matrix: Soil Date Collected: 04.02.2020 09:45	Date Received:04.02.2020 11:00 Sample Depth: 10 - 10.3 ft
Analytical Method: BTEX by EPA 8021B Tech: MAB		Prep Method: SW5030B % Moisture:
Analyst: MAB Seq Number: 3121960	Date Prep: 04.04.2020 13:40	Basis: Wet Weight

Parameter	Cas Numbe	r Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00198	0.00198		mg/kg	04.05.2020 00:19	U	1
Toluene	108-88-3	< 0.00198	0.00198		mg/kg	04.05.2020 00:19	U	1
Ethylbenzene	100-41-4	< 0.00198	0.00198		mg/kg	04.05.2020 00:19	U	1
m,p-Xylenes	179601-23-1	< 0.00396	0.00396		mg/kg	04.05.2020 00:19	U	1
o-Xylene	95-47-6	< 0.00198	0.00198		mg/kg	04.05.2020 00:19	U	1
Xylenes, Total	1330-20-7	< 0.00198	0.00198		mg/kg	04.05.2020 00:19	U	1
Total BTEX		< 0.00198	0.00198		mg/kg	04.05.2020 00:19	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	93	%	70-130	04.05.2020 00:19		
1,4-Difluorobenzene		540-36-3	107	%	70-130	04.05.2020 00:19		



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Certificate of Analytical Results 657712

LT Environmental, Inc., Arvada, CO

Swearingen SWD#1

Sample Id: SB06 Lab Sample Id: 657712-009		Matrix: Date Col	Soil llected: 04.02.202	0 08:45	Date Received:0 Sample Depth: 2		:00
Analytical Method: Chloride by Tech: MAB Analyst: MAB	EPA 300	Date Pre	p: 04.04.202	0 10:05	Prep Method: E % Moisture:		
Seq Number: 3121982							
Parameter Chloride	Cas Number 16887-00-6	Result 4420	RL 50.2	Units mg/kg	Analysis Date 04.04.2020 20:0	8	Dil 5

Analytical Method: TPH by SW801	5 Mod					Prep Method: S	W8015P	
Tech: DTH						% Moisture:		
Analyst: DTH		Date P	rep: 04.	03.2020 18:15		Basis: W	/et Weight	
Seq Number: 3122009								
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9		mg/kg	04.06.2020 07:0	1 U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9		mg/kg	04.06.2020 07:0	1 U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9		mg/kg	04.06.2020 07:0	1 U	1
Total GRO-DRO	PHC628	<49.9	49.9		mg/kg	04.06.2020 07:0	1 U	1
Total TPH	PHC635	<49.9	49.9		mg/kg	04.06.2020 07:0	1 U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Da	te Flag	
1-Chlorooctane		111-85-3	104	%	70-135	04.06.2020 07	:01	
o-Terphenyl		84-15-1	106	%	70-135	04.06.2020 07	:01	

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Certificate of Analytical Results 657712

LT Environmental, Inc., Arvada, CO

Swearingen SWD#1

Sample Id:SB06Lab Sample Id:657712-009	Matrix: Date Collecte	Soil ed: 04.02.2020 08:45	Date Received Sample Depth	d:04.02.2020 11:00 n: 2 - 2.5 ft
Analytical Method: BTEX by EPA 8021B Tech: MAB			Prep Method: % Moisture:	SW5030B
Analyst: MAB Seq Number: 3121960	Date Prep:	04.04.2020 13:40	Basis:	Wet Weight

Parameter	Cas Number	r Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00198	8 0.00198		mg/kg	04.05.2020 00:39	U	1
Toluene	108-88-3	< 0.00198	0.00198		mg/kg	04.05.2020 00:39	U	1
Ethylbenzene	100-41-4	< 0.00198	0.00198		mg/kg	04.05.2020 00:39	U	1
m,p-Xylenes	179601-23-1	< 0.00395	0.00395		mg/kg	04.05.2020 00:39	U	1
o-Xylene	95-47-6	< 0.00198	8 0.00198		mg/kg	04.05.2020 00:39	U	1
Xylenes, Total	1330-20-7	< 0.00198	0.00198		mg/kg	04.05.2020 00:39	U	1
Total BTEX		< 0.00198	3 0.00198		mg/kg	04.05.2020 00:39	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene		540-36-3	106	%	70-130	04.05.2020 00:39		
4-Bromofluorobenzene		460-00-4	92	%	70-130	04.05.2020 00:39		



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Certificate of Analytical Results 657712

LT Environmental, Inc., Arvada, CO

Swearingen SWD#1

Chloride		16887-00-6	919	9.98	mg/kg	04.04.2020 20:12		1
Parameter		Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Seq Number:	3121982							
Analyst:	MAB		Date Prep	: 04.04.2020 10:05		Basis: W	et Weight	
Tech:	MAB					% Moisture:		
Analytical M	ethod: Chloride by E	PA 300				Prep Method: E3	00P	
-	d: 657712-010		Date Coll	ected: 04.02.2020 09:05		Sample Depth: 10	- 10.5 ft	
Sample Id:	SB06A		Matrix:	Soil		Date Received:04	.02.2020 11	:00

Analytical Method: TPH by SW802	15 Mod					Prep Method: S	W8015P	
Tech: DTH						% Moisture:		
Analyst: DTH		Date P	rep: 04.0	03.2020 18:15		Basis: V	Vet Weight	
Seq Number: 3122009								
Parameter	Cas Number	Result	RL		Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9		mg/kg	04.06.2020 07:2	1 U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9		mg/kg	04.06.2020 07:2	1 U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9		mg/kg	04.06.2020 07:2	1 U	1
Total GRO-DRO	PHC628	<49.9	49.9		mg/kg	04.06.2020 07:2	1 U	1
Total TPH	PHC635	<49.9	49.9		mg/kg	04.06.2020 07:2	1 U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Da	ite Flag	
1-Chlorooctane		111-85-3	104	%	70-135	04.06.2020 07	:21	
o-Terphenyl		84-15-1	108	%	70-135	04.06.2020 07	2:21	

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Certificate of Analytical Results 657712

LT Environmental, Inc., Arvada, CO

Swearingen SWD#1

Sample Id:SB06ALab Sample Id:657712-010	Matrix: Date Collecte	Soil ed: 04.02.2020 09:05	Date Receive Sample Depth	d:04.02.2020 11:00 n: 10 - 10.5 ft
Analytical Method: BTEX by EPA 8021B Tech: MAB			Prep Method: % Moisture:	SW5030B
Analyst: MAB Seq Number: 3121960	Date Prep:	04.04.2020 13:40	Basis:	Wet Weight

Parameter	Cas Numbe	r Result	RL		Units	Analysis Date	Flag	Dil
Benzene	71-43-2	< 0.00200	0.00200		mg/kg	04.05.2020 01:00	U	1
Toluene	108-88-3	< 0.00200	0.00200		mg/kg	04.05.2020 01:00	U	1
Ethylbenzene	100-41-4	< 0.00200	0.00200		mg/kg	04.05.2020 01:00	U	1
m,p-Xylenes	179601-23-1	< 0.00401	0.00401		mg/kg	04.05.2020 01:00	U	1
o-Xylene	95-47-6	< 0.00200	0.00200		mg/kg	04.05.2020 01:00	U	1
Xylenes, Total	1330-20-7	< 0.00200	0.00200		mg/kg	04.05.2020 01:00	U	1
Total BTEX		< 0.00200	0.00200		mg/kg	04.05.2020 01:00	U	1
Surrogate		Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene		460-00-4	98	%	70-130	04.05.2020 01:00		
1,4-Difluorobenzene		540-36-3	107	%	70-130	04.05.2020 01:00		



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.	ND Not Detected			
RL Reporting Limit				
MDL Method Detection Limit	SDL Sample De	tection Limit	LOD Limit of Detection	
PQL Practical Quantitation Limit	MQL Method Qu	antitation Limit	LOQ Limit of Quantitatio	n
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/Labo	ratory Control Sample Duplicate
MD/SD Method Duplicate/Samp	ble Duplicate	MS	Matrix Spike	MSD: Matrix Spike Duplicate
+ NELAC certification not offered	l for this compound.			

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



QC Summary 657712

LT Environmental, Inc.

Swearingen SWD#1

						U							
Analytical Method: Seq Number:	Chloride by 3121982	y EPA 3()0		Matrix:	Solid			Pı	rep Metho Date Pr		0P)4.2020	
MB Sample Id:	7700529-1-1	BLK		LCS Sar	nple Id:	7700529-	I-BKS		LCS	D Sample	e Id: 770	0529-1-BSD	
Parameter		MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride		<10.0	250	265	106	265	106	90-110	0	20	mg/kg	04.04.2020 18:36	
Analytical Method:	Chloride by	y EPA 3()0						Pı	rep Metho	od: E30	0P	
Seq Number:	3121982				Matrix:	Soil				Date Pr	ep: 04.0	04.2020	
Parent Sample Id:	657712-001			MS Sar	nple Id:	657712-00	01 S		MS	D Sample	e Id: 657	712-001 SD	
Parameter		Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride		1130	199	1320	95	1330	100	90-110	1	20	mg/kg	04.04.2020 18:55	
Analytical Method:	Chloride by	y EPA 3()0						Pı	rep Metho	od: E30	0P	
Seq Number:	3121982				Matrix:					Date Pr	-	04.2020	
Parent Sample Id:	657765-004			MS Sar	nple Id:	657765-00)4 S		MS	D Sample	e Id: 657	765-004 SD	
Parameter		Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride		626	198	822	99	822	99	90-110	0	20	mg/kg	04.04.2020 20:25	
Analytical Method:	TPH by SV	V8015 M	od						D,	rep Metho	od SW	8015P	
Seq Number:	3122009	0013 10	ou		Matrix:	Solid			11	Date Pr		03.2020	
MB Sample Id:	7700582-1-1	BLK		LCS Sar	nple Id:	7700582-	I-BKS		LCS		-	0582-1-BSD	
Parameter		MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbo	ons (GRO)	< 50.0	1000	1030	103	1020	102	70-135	1	35	mg/kg	04.06.2020 00:17	
Diesel Range Organics ((DRO)	<50.0	1000	1120	112	1110	111	70-135	1	35	mg/kg	04.06.2020 00:17	
Surrogate		MB %Rec	MB Flag		CS Rec	LCS Flag	LCSI %Re			imits	Units	Analysis Date	
1-Chlorooctane		110		1	27		118	1	70	-135	%	04.06.2020 00:17	
o-Terphenyl		115		1	22		118		70	-135	%	04.06.2020 00:17	
Analytical Method:	TPH by SW	V8015 M	od						Pı	rep Metho	od: SW	8015P	
Seq Number:	3122009				Matrix:					Date Pr	ep: 04.0	03.2020	
				MB Sar	nple Id:	7700582-1	I-BLK						
Parameter				MB Result							Units	Analysis Date	Flag
Motor Oil Range Hydrocart	oons (MRO)			<50.0							mg/kg	04.04.2020 01:12	
											2.0		

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

.

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

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

.

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Final 1.000



QC Summary 657712

Prep Method: SW8015P

LT Environmental, Inc.

Swearingen SWD#1

Seq Number:	3122009]	Matrix:	Soil				Date Pr	ep: 04.0	03.2020	
Parent Sample Id:	657686-00	l		MS San	nple Id:	657686-00	01 S		MS	D Sample	e Id: 657	686-001 SD	
Parameter		Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocart	bons (GRO)	< 50.2	1000	987	99	989	99	70-135	0	35	mg/kg	04.06.2020 01:17	
Diesel Range Organics	(DRO)	< 50.2	1000	1040	104	1050	105	70-135	1	35	mg/kg	04.06.2020 01:17	
Surrogate					IS Rec	MS Flag	MSE %Re			imits	Units	Analysis Date	
1-Chlorooctane				1	21		118	;	70	-135	%	04.06.2020 01:17	
o-Terphenyl				1	12		114	Ļ	70	-135	%	04.06.2020 01:17	

Analytical Method:	BTEX by EPA 8021	B						Pi	rep Metho	od: SW	5030B	
Seq Number:	3121960]	Matrix:	Solid				Date Pr	ep: 04.0	04.2020	
MB Sample Id:	7700538-1-BLK		LCS San	nple Id:	7700538-1	I-BKS		LCS	D Sample	e Id: 770	0538-1-BSD	
Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	< 0.00200	0.100	0.103	103	0.102	102	70-130	1	35	mg/kg	04.04.2020 16:50	
Toluene	< 0.00200	0.100	0.0971	97	0.0964	96	70-130	1	35	mg/kg	04.04.2020 16:50	
Ethylbenzene	< 0.00200	0.100	0.0912	91	0.0899	90	71-129	1	35	mg/kg	04.04.2020 16:50	
m,p-Xylenes	< 0.00400	0.200	0.186	93	0.184	92	70-135	1	35	mg/kg	04.04.2020 16:50	
o-Xylene	< 0.00200	0.100	0.0949	95	0.0949	95	71-133	0	35	mg/kg	04.04.2020 16:50	
Surrogate	MB %Rec	MB Flag		CS Rec	LCS Flag	LCSE %Rec			imits	Units	Analysis Date	
1,4-Difluorobenzene	108		1	06		104		70	-130	%	04.04.2020 16:50	
4-Bromofluorobenzene	92		9	3		91		70	-130	%	04.04.2020 16:50	

Analytical Method: Seq Number: Parent Sample Id:	BTEX by EPA 8021 3121960 657371-008	lB		Matrix: nple Id:	Soil 657371-00)8 S			rep Metho Date Pr D Samplo	ep: 04.0	5030B)4.2020 371-008 SD	
Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	< 0.00202	0.101	0.0922	91	0.105	105	70-130	13	35	mg/kg	04.04.2020 17:31	
Toluene	< 0.00202	0.101	0.0892	88	0.0990	99	70-130	10	35	mg/kg	04.04.2020 17:31	
Ethylbenzene	< 0.00202	0.101	0.0845	84	0.0920	92	71-129	8	35	mg/kg	04.04.2020 17:31	
m,p-Xylenes	< 0.00404	0.202	0.174	86	0.188	94	70-135	8	35	mg/kg	04.04.2020 17:31	
o-Xylene	< 0.00202	0.101	0.0881	87	0.0958	96	71-133	8	35	mg/kg	04.04.2020 17:31	
Surrogate				IS Rec	MS Flag	MSD %Re			imits	Units	Analysis Date	
1,4-Difluorobenzene			1	05		104		70	0-130	%	04.04.2020 17:31	
4-Bromofluorobenzene			9	03		91		70)-130	%	04.04.2020 17:31	

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

.

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

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

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Final 1.000

G	3 UMMA	10	Relinqui	of Xenco. A	Notice: Sign of service.)	Cir	Tota	SBOVA	99955	SBOSA	SB05	SBOMA	5804	5003A	5603	5302	5801	Lab ID	Samp	Cool		SAMPL		Sam	Proje	Proj	Pr		Cit		Com	Proje	
	ander	Brier	Relinquished by: (Signature)	minimum charge of \$75.00	Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. 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 a	Circle Method(s) and Metal(s) to be analyzed	Total 200.7 / 6010 2	P		P		A		A		12		Sample Identification	Sample Custody Seals:	Cooler Custody Seals:	Temperature (°C):	SAMPLE RECEIPT	PO #:	_	Project Location Eddy		Project Name: Swe	Phone: 970	City, State ZIP: Rifle	Address: 820	Company Name: LT E	Project Manager: Chris	LABOR
		\wedge	e)	will be applied to each	f relinquishment of sam the cost of samples an	fetal(s) to be analy	200.8 / 6020:	*								-	S.	Matrix	No	Yes No N/A	U	Temp Blank:		-	in County	8 8,0 618 480		5866 Sar	e, ex Bluese	megan	LT Environmental	5 McKisson	ATORIES
	4	t	Received by: (Signature)	project and a charge of	ples constitutes a valid ples constitutes a valid ples de la constitutes a valid ples de la constitute de la	vzed TCLP		5060 A	5480	5460	4/2/20 0930	V 1527	1500	1425	1320	1 1200	4/1/20 0922	Date Time Sampled Sampled	Total Containers:	Correction Factor:	Therm	(Yes No W	Quote #:	-	٤		SWD#1		9 <u>9</u> %	Are, Unit B	tal	2	Midland,TX Phoenix,AZ (48
)		gnature)	\$5 for each sample subm	ourchase order from clier esponsibility for any los	TCLP / SPLP 6010: 8R(5 10-10.5	5 2-2.5'	15 10-10.3	30 2-3.5'	27 10-10.5	50 2-2.3'	15 10-10.5		0 10-12.2	2 10-12.2	Time Depth ampled	E	n Factor: -0-7	Thermometer ID	Wet Ice: Yes No		Due Date:	Rush: 3 DAY	Routine	Turn Around	Email: concless	City, S		Compan	Bill to:	(432) 704-5440 EL Pa 30) 355-0900 Atlanta,G
	1 alth		Date/Time	itted to Xenco, but not an	nt company to Xenco, its a ses or expenses incurred	8RCRA Sb As Ba Be Cd Cr	A	r x x	- × ×	-	X X I	, - × ×	X X I	- × ×	- × ×	- x x	XX	Numb TPH BIE	(E	-PA	B	D15	-)		Pres. Code		emetisson@thenv-comd cityers@	City, State ZIP:	Address:	Company Name:	Bill to: (if different)	 325 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Crasibad, NM (355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, Fl
42 50	4	19/2	Relin	alyzed. These terms w	ffiliates and subcontr by the client if such lo	e Cd Cr Co Cu Pb	Ba Be B Cd Ca	×	×	×	×	×	×	×	У.	×	*	Chibi	ride	2 (E	504	+30	00.	0)				nd-obyec					ubbock,TX (806) 79 a,FL (813) 620-200
			Relinquished by: (Signature)	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	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	u Pb Mn Mo Ni Se Ag	Co Cu Fe Pb																				ANALYSIS REQUEST	@Henricom					Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Crastbad, 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
				/ negotiated.	ns and conditions beyond the control	g TI U	Mg Mn Mo Ni K Se																				UEST	Deliverables: EDD	Reporting:Level II	State of Project:	Program: UST/PS		
			Received by: (Signature)			163	Ag SiO2 Na Sr														7	т	-	-	7			D ADaPT	Level III PSTA	Ħ	T PRP Browni	Work Order Comments	www.xenco.com
) Date/Time			1631 / 245.1 / 7470 / 7471 : Hg	TI Sn U V Zn											Sample Comments	TAT starts the day received by the lab, received by 4:00pm	Zn Acetate+ NaOH: Zn	NaOH: Na	HCL: HL	H2S04: H2	HNO3: HN	None: NO	MeOH: Me	Preservative Codes	Other:	Reporting:Level II Level III PST/UST TRRP Level IV		Program: UST/PST PRP Brownfields RRC Superfund	omments	Page of

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XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.	Acceptable Temperature Range: 0 - 6 degC Air and Metal samples Acceptable Range: Ambient
Date/ Time Received: 04.02.2020 11.00.00 AM	
Work Order #: 657712	Temperature Measuring device used : T-NM-007
Sample Recei	pt Checklist Comments
#1 *Temperature of cooler(s)?	1.5
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6*Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

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PH Device/Lot#:

Checklist completed by: Elizabeth McClellan
Checklist reviewed by: Lessica Kramer

Date: 04.02.2020

Jessica Kramer

Date: 04.03.2020