

April 19, 2018

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

**RE: Closure Request
Avalon Delaware Unit #517
Remediation Permit Number 2RP-4678
Eddy County, New Mexico**

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO) presents the following letter report detailing excavation and confirmation soil sampling activities at the Avalon Delaware Unit (ADU) #517 well pad (Site) in Unit Letter B, Section 31, Township 20 South, Range 28 East, in Eddy County, New Mexico (Figure 1). The purpose of the excavation activities was to address impact to soil after fluid was released from what appeared to be a bullet hole through an aboveground poly flowline. The release of approximately 92 barrels (bbls) of crude oil and produced water was discovered on March 6, 2018. It should be noted that the release was originally reported at a lesser volume. The volume was revised based on field observations during remediation. The release affected approximately 2,030 square feet of pasture, extending about 240 feet southwest of the release point. No free-standing liquids were recovered. The line was clamped and repaired. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on March 21, 2018 and was assigned Remediation Permit Number (RP) 2RP-4678. The sampling was conducted in response to the conditions of approval from the NMOCD, documented on the Form C-141. Based on the results of the confirmation sampling event conducted after impacted soil was removed, XTO is requesting no further action for this release.

BACKGROUND

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on the nearest water well data and known aquifer properties. The nearest permitted water well is CP 00851, located approximately 252 feet south of the Site, with a depth to groundwater of 115 feet bgs and a total depth of 255 feet bgs. The closest surface water to the Site is a first order tributary to Lake Avalon located approximately 1.1 miles west of the Site. The site is greater than 200 feet from any private domestic water source and greater than 1,000 feet from a water source. Based on these criteria, the NMOCD site ranking for remediation action levels is 0, and the following remediation action levels apply: 10 milligrams per kilogram (mg/kg) benzene; 50 mg/kg benzene, toluene, ethylbenzene, and total xylenes (BTEX); and 5,000 mg/kg total petroleum hydrocarbons (TPH). Based on standard practice in this region, LTE proposes a site-specific chloride action level of 600 mg/kg or within 10 percent (%) of the background concentrations.



EXCAVATION ACTIVITIES

Excavation activities within the release footprint commenced on March 13, 2018, and concluded on April 12, 2018. In an effort to delineate hydrocarbon and chloride impacts to soil and direct excavation activities, LTE screened soil samples using a photo-ionization detector (PID) and Hach® chloride QuanTab® test strips. The excavation was approximately 12,837 square feet in area and depth ranged from 5 feet bgs in the southwest portion of the excavation to 14 feet bgs in the northeast portion. The horizontal extent of the excavation is illustrated on Figure 2. Approximately 2,000 cubic yards of impacted soil was removed via backhoe. All impacted soil was transported and properly disposed of at Lea Land, located in Eunice, New Mexico.

SOIL SAMPLING

Following initial excavation activities, LTE collected a total of 17 confirmation soil samples on March 15, 2018, as depicted on Figure 2. Six of the confirmation soil samples were collected from the base of the excavation (BH01 through BH06) and 11 along the excavation sidewalls (SW01 through SW11). The soil samples were collected directly from the buckets of the excavation equipment after LTE directed operators on where to obtain discrete samples and a fresh surface of the material to be sampled was exposed. The soil was placed directly into pre-cleaned glass jars, labeled with location, date, time, sampler, and method of analysis, and immediately placed on ice. The samples were hand delivered to a laboratory courier at 4 degrees Celsius (°C) under strict chain-of-custody procedures to Xenco Laboratories in Midland, Texas, 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.

On April 12, 2018, LTE personnel returned to the Site to remediate any areas of residual impact to soil as indicated by laboratory analytical results exceeding NMOCD remediation action levels. LTE collected six soil samples (BH4A, BH5A, BH6A, SW9A, SW10A, and SW11A) after additional excavation. Soil sample locations are depicted on Figure 2. Soil samples were collected and handled as previously described; however, samples were analyzed for BTEX, TPH, and chloride by Hall Environmental Analysis Laboratory in Albuquerque, New Mexico.

ANALYTICAL RESULTS

Laboratory analytical results indicated BTEX and TPH concentrations were below the NMOCD remediation action levels in all final confirmation samples. Laboratory analytical results indicated six samples (BH4, BH5, BH6, SW9, SW10, and SW11) initially exceeded the site-specific remediation action level for chloride, ranging from 1,020 mg/kg in BH4 to 8,450 mg/kg in SW10. The excavation was extended in those areas, and all subsequent samples (BH4A, BH5A, BH6A, SW9A, SW10A, and SW11A) contained chloride concentrations below the site-specific remediation action level, with the highest concentration of 550 mg/kg in BH6A. Laboratory analytical results are summarized on Figure 2 and in Table 1, and complete laboratory analytical reports are included as Attachment 2.





CONCLUSIONS

Laboratory analytical results for soil samples collected from the sidewalls and the bottom of the excavation indicate that concentrations of BTEX, TPH, and chloride do not exceed NMOCD site-specific remediation action levels. XTO has successfully removed the impacted soil at the Site and requests no further action for this release. Upon approval of this request, XTO will backfill the excavation with material purchased locally and recontour the Site to match native topography. XTO will re-seed the area with Bureau of Land Management seed mix #2 via drill or broadcast method. An updated NMOCD Form C-141 is included with Attachment 1.

If you have any questions or comments, please do not hesitate to contact Adrian Baker at (432) 887-1255 or abaker@ltenv.com.

Sincerely,

LT ENVIRONMENTAL, INC.

Adrian Baker
Project Geologist

Ashley L. Ager, P.G.
Senior Geologist

Attachments:

Figure 1 Site Location Map
Figure 2 Soil Sample Locations
Table 1 Soil Analytical Results
Attachment 1 Initial/Final NMOCD Form C-141
Attachment 2 Laboratory Analytical Reports

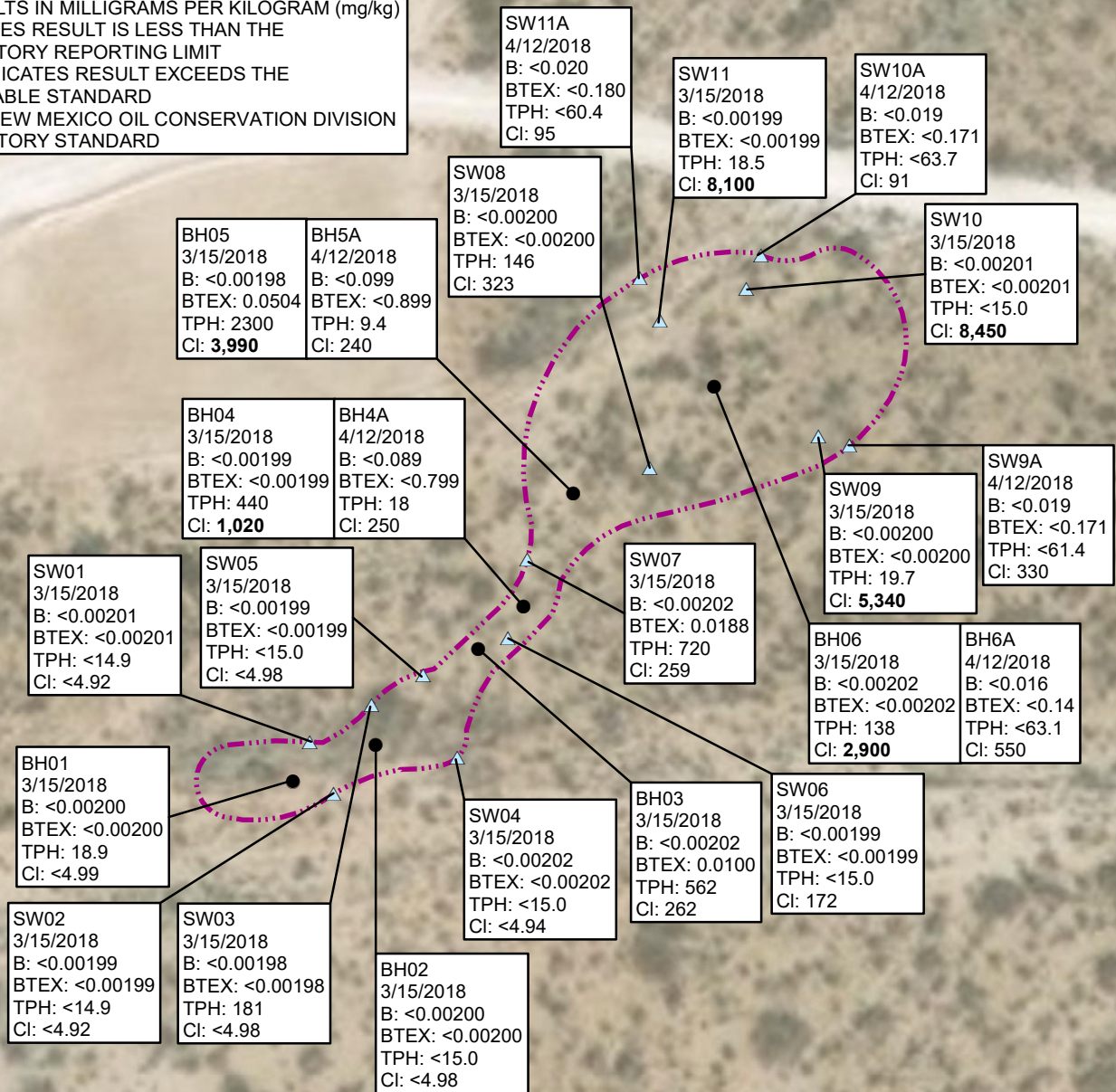
cc: Kyle Littrell, XTO
Mike Bratcher, NMOCD
Jim Amos, BLM
Shelly Tucker, BLM



FIGURES



SAMPLE ID
 SAMPLE DATE
 B: BENZENE (NMOCD = 10 mg/kg)
 BTEX: TOTAL BTEX (NMOCD = 50 mg/kg)
 TPH: TOTAL PETROLEUM HYDROCARBONS
 (NMOCD = 5,000 mg/kg)
 Cl: CHLORIDE (NMOCD = 600 mg/kg)
 ALL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)
 <: INDICATES RESULT IS LESS THAN THE
 LABORATORY REPORTING LIMIT
BOLD: INDICATES RESULT EXCEEDS THE
 APPLICABLE STANDARD
 NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
 REGULATORY STANDARD



LEGEND

- BOTTOM HOLE
- ▲ SIDE WALL SAMPLE
- RELEASE FOOTPRINT/EXCAVATION EXTENT

IMAGE COURTESY OF ESRI

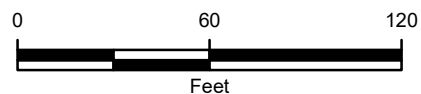


FIGURE 2
 SITE SAMPLE LOCATIONS
 ADU #517
 NWNE SEC 31 T20S R28E
 EDDY COUNTY, NEW MEXICO
 XTO ENERGY, INC.



TABLE



Advancing Opportunity

TABLE 1
SOIL ANALYTICAL RESULTS
ADU #517 2RP-4678
EDDY COUNTY, NEW MEXICO
XTO ENERGY INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	C6-C10 Gasoline Range Organics (mg/kg)	C10-C28 Diesel Range Organics (mg/kg)	C28-40 Motor Oil Range Organics (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
BH01	5	3/15/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	18.9	<15.0	18.9	<4.99
BH02	5	3/15/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	<4.98
BH03	5	3/15/2018	<0.00202	<0.00202	<0.00202	0.0100	0.0100	15.3	483	64.0	562	262
BH04	2	3/15/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	387	52.6	440	1,020
BH4A	10	4/12/2018	<0.089	<0.18	<0.18	<0.35	<0.799	<18	18	<49	18	250
BH05	2	3/15/2018	<0.00198	0.00367	0.00627	0.0405	0.0504	62.8	2190	48.0	2,300	3,990
BH5A	14	4/12/2018	<0.099	<0.20	<0.20	<0.40	<0.899	<20	9.4	<45	9.4	240
BH06	7	3/15/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	138	<15.0	138	2,900
BH6A	14	4/12/2018	<0.016	<0.031	<0.031	<0.062	<0.14	<3.1	<10	<50	<63.1	550
SW01	2	3/15/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<14.9	<14.9	<14.9	<14.9	<4.92
SW02	2	3/15/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<14.9	<14.9	<14.9	<14.9	<4.92
SW03	2	3/15/2018	<0.00198	<0.00198	<0.00198	<0.00198	<0.00198	<15.0	181	<15.0	181	<4.98
SW04	2	3/15/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	<4.94
SW05	2	3/15/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	<4.98
SW06	2	3/15/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	172
SW07	1	3/15/2018	<0.00202	<0.00202	0.00348	0.0153	0.0188	17.8	664	38.3	720	259
SW08	4	3/15/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	146	<15.0	146	323
SW09	4	3/15/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	19.7	<15.0	19.7	5,340
SW9A	8	4/12/2018	<0.019	<0.038	<0.038	<0.076	<0.171	<3.8	<9.6	<48	<61.4	330
SW10	4	3/15/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	8,450
SW10A	9	4/12/2018	<0.019	<0.038	<0.038	<0.076	<0.171	<3.8	<9.9	<50	<63.7	91
SW11	4	3/15/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	18.5	<15.0	18.5	8,100
SW11A	8	4/12/2018	<0.020	<0.040	<0.040	<0.080	<0.180	<4.0	<9.4	<47	<60.4	95
NMOCD Remediation Action Levels			10	NE	NE	NE	50	NE	NE	NE	5,000	600

Notes:

bgs - below ground surface

BTEX - benzene, toluene, ethylbenzene, and total xylenes

mg/kg - milligrams per kilogram

NE - not established

NMOCD - New Mexico Oil Conservation Division

TPH - total petroleum hydrocarbons

< - indicates result is below the laboratory reporting limit

Bold - indicates result exceeds the applicable regulatory standard.



ATTACHMENT 1
INITIAL/FINAL NMOCD FORM C-141



Advancing Opportunity

OIL CONSERVATION

ARTESIA DISTRICT

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

MAR 21 2018

Form C-141
Revised April 3, 2017

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

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

Release Notification and Corrective Action

NAB1808528967

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company: XTO Energy 5380	Contact: Kyle Littrell
Address: 522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No: 432-221-7331
Facility Name: Avalon Delaware Unit #517	Facility Type: Exploration and Production

Surface Owner: Federal	Mineral Owner: Federal	API No: 30-015-24337
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	31	20S	28E	780	North	1690	East	Eddy

Latitude 32.535011° Longitude -104.214235° NAD83

NATURE OF RELEASE

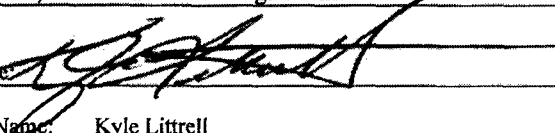
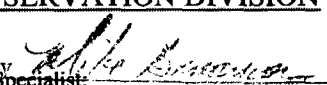
Type of Release: Produced water and crude oil	Volume of Release: 49 bbls	Volume Recovered: 0 bbls
Source of Release: flow line	Date and Hour of Occurrence: Unknown	Date and Hour of Discovery: 3/6/2018 8 am
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? Mike Bratcher/Crystal Weaver (NMOCD), Shelly Tucker/Jim Amos (BLM)	
By Whom? Amy Ruth	Date and Hour: 3/6/2018 3:21 pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

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

Describe Cause of Problem and Remedial Action Taken.*
Fluid was released from what appeared to be a bullet hole through the surface poly flow line. The line was clamped until it was repaired.

Describe Area Affected and Cleanup Action Taken.*
The release affected approximately 2,030 square feet of pasture extending about 240 feet southwest of the source. An environmental contractor was retained to assist with the remediation effort. Excavation and sampling activities have been initiated.

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

Signature:  Printed Name: Kyle Littrell Title: Environmental Coordinator E-mail Address: Kyle.Littrell@xtoenergy.com Date: 3/21/2018 Phone: 432-221-7331	OIL CONSERVATION DIVISION Signed By:  Approved by Environmental Specialist: <table style="width: 100%;"> <tr> <td style="width: 50%;">Approval Date: 3/23/18</td> <td style="width: 50%;">Expiration Date: N/A</td> </tr> </table> <table style="width: 100%;"> <tr> <td style="width: 60%;">Conditions of Approval: See Attached</td> <td style="width: 40%;">Attached: ARP-4678</td> </tr> </table>	Approval Date: 3/23/18	Expiration Date: N/A	Conditions of Approval: See Attached	Attached: ARP-4678
Approval Date: 3/23/18	Expiration Date: N/A				
Conditions of Approval: See Attached	Attached: ARP-4678				

* Attach Additional Sheets If Necessary

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 3/21/2018 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number ARP-417B has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 2 office in ARTESIA on or before 4/21/2018. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

- Nominal detection limits for field and laboratory analyses must be provided.

- Composite sampling is not generally allowed.

- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.

Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold
OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us

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

Form C-141
Revised April 3, 2017

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

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

Release Notification and Corrective Action

OPERATOR

☐ Initial Report ☒ Final Report

Name of Company XTO Energy	Contact Kyle Littrell	
Address 3104 E Greene Street Carlsbad, N.M. 88220	Telephone No. 432-221-7331	
Facility Name Avalon Delaware Unit #517	Facility Type Exploration and Production	
Surface Owner Federal	Mineral Owner Federal	API No. 30-015-24337

LOCATION OF RELEASE

Unit Letter B	Section 31	Township 20S	Range 28E	Feet from the 780	North/South Line North	Feet from the 1690	East/West Line East	County Eddy
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Latitude _____ N 32.535011 _____ Longitude _____ -104.214235 _____ NAD83

NATURE OF RELEASE

Type of Release Produced Water and crude oil	Volume of Release 92 bbls (originally estimated as 49 bbls, but revised based on field observations made during remediation activities)	Volume Recovered 0 bbls
Source of Release flow line	Date and Hour of Occurrence unknown	Date and Hour of Discovery 3-6-2018 @ 8AM
Was Immediate Notice Given? ☐ Yes ☐ No ☒ Not Required	If YES, To Whom? Mike Bratcher/ Crystal Weaver (NMOCD) Shelly Tucker/ Jim Amos(BLM)	
By Whom? Amy Ruth	Date and Hour 3/6/2018 3:21 pm	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse. N/A	

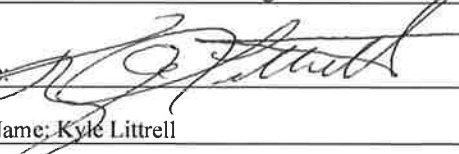
If a Watercourse was Impacted, Describe Fully.* N/A

Describe Cause of Problem and Remedial Action Taken.*

Fluid was released from what appeared to be a bullet hole through the poly flow line. The line was clamped until it was repaired.

Describe Area Affected and Cleanup Action Taken.* The release affected approximately 2,030 square feet of pasture extending about 240 feet southwest of the source. The impacted soil was excavated and confirmation soil samples were collected from the side walls and bottom of the excavation on March 15, 2018 and April 12, 2018. Laboratory analytical results from 23 confirmation soil samples indicate concentrations of BTEX, TPH, and chloride do not exceed NMOCD remediation action levels. Based on the volume of soil removed, XTO requests no further action for this release and will backfill, re-contour, and re-seed the excavation with BLM seed mix #2.

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

Signature: 	OIL CONSERVATION DIVISION	
Printed Name: Kyle Littrell	Approved by Environmental Specialist:	
Title: SH&E Coordinator	Approval Date:	Expiration Date:
E-mail Address: Kyle_Littrell@xtoenergy.com	Conditions of Approval:	Attached ☐
Date: 5/01/2018 Phone: 432-221-7331		

* Attach Additional Sheets If Necessary

ATTACHMENT 2
LABORATORY ANALYTICAL REPORTS



Advancing Opportunity

Analytical Report 579458

for
LT Environmental, Inc.

Project Manager: Adrian Baker

ADU #517 30-015-24337

20-MAR-18

Collected By: Client



1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab code: TX00122):

Texas (T104704215-18-24), Arizona (AZ0765), Florida (E871002-24), Louisiana (03054)
Oklahoma (2017-142)

Xenco-Dallas (EPA Lab code: TX01468):

Texas (T104704295-17-16), Arizona (AZ0809), Arkansas (17-063-0)

Xenco-El Paso (EPA Lab code: TX00127): Texas (T104704221-17-12)

Xenco-Lubbock (EPA Lab code: TX00139): Texas (T104704219-17-16)

Xenco-Odessa (EPA Lab code: TX00158): Texas (T104704400-18-14)

Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-17-3)

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

Xenco-Phoenix Mobile (EPA Lab code: AZ00901): Arizona (AZM757)

Xenco-Atlanta (LELAP Lab ID #04176)



20-MAR-18

Project Manager: **Adrian Baker**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **579458**

ADU #517 30-015-24337

Project Address: Carlsbad, NM

Adrian Baker:

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) 579458. 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. 579458 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Project Assistant

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

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Sample Cross Reference 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH1	S	03-15-18 14:00	5 ft	579458-001
BH2	S	03-15-18 14:05	5 ft	579458-002
BH3	S	03-15-18 14:10	5 ft	579458-003
BH4	S	03-15-18 14:15	2 ft	579458-004
BH5	S	03-15-18 14:20	2 ft	579458-005
BH6	S	03-15-18 14:25	7 ft	579458-006
SW1	S	03-15-18 14:30	2 ft	579458-007
SW2	S	03-15-18 14:35	2 ft	579458-008
SW3	S	03-15-18 14:40	2 ft	579458-009
SW4	S	03-15-18 14:45	2 ft	579458-010
SW5	S	03-15-18 14:50	2 ft	579458-011
SW6	S	03-15-18 14:55	2 ft	579458-012
SW7	S	03-15-18 15:20	1 ft	579458-013
SW8	S	03-15-18 15:00	4 ft	579458-014
SW9	S	03-15-18 15:05	4 ft	579458-015
SW10	S	03-15-18 15:10	4 ft	579458-016
SW11	S	03-15-18 15:15	4 ft	579458-017



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *ADU #517 30-015-24337*

Project ID:

Work Order Number(s): 579458

Report Date: 20-MAR-18

Date Received: 03/16/2018

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3044101 BTEX by EPA 8021B

Lab Sample ID 579458-001 was randomly selected for Matrix Spike/Matrix Spike Duplicate (MS/MSD). Benzene, Ethylbenzene, Toluene, m,p-Xylenes, o-Xylene recovered below QC limits in the Matrix Spike and Matrix Spike Duplicate. Outlier/s are due to possible matrix interference. Samples in the analytical batch are: 579458-001, -002, -003, -004, -005, -006, -007, -008, -009, -010, -011, -012, -013, -014, -015, -016, -017.

The Laboratory Control Sample for Toluene, Benzene, m,p-Xylenes, Ethylbenzene, o-Xylene is within laboratory Control Limits, therefore the data was accepted.

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



Certificate of Analysis Summary 579458

LT Environmental, Inc., Arvada, CO

Project Name: ADU #517 30-015-24337



Project Id:

Contact: Adrian Baker

Project Location: Carlsbad, NM

Date Received in Lab: Fri Mar-16-18 08:40 am

Report Date: 20-MAR-18

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	579458-001	579458-002	579458-003	579458-004	579458-005	579458-006
	Field Id:	BH1	BH2	BH3	BH4	BH5	BH6
	Depth:	5- ft	5- ft	5- ft	2- ft	2- ft	7- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Mar-15-18 14:00	Mar-15-18 14:05	Mar-15-18 14:10	Mar-15-18 14:15	Mar-15-18 14:20	Mar-15-18 14:25
BTEX by EPA 8021B	Extracted:	Mar-16-18 13:00	Mar-16-18 13:00	Mar-16-18 13:00	Mar-16-18 13:00	Mar-16-18 13:00	Mar-16-18 13:00
	Analyzed:	Mar-16-18 15:23	Mar-16-18 15:43	Mar-16-18 16:02	Mar-16-18 16:21	Mar-16-18 16:40	Mar-16-18 17:00
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00202 0.00202
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	0.00367 0.00198	<0.00202 0.00202
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	0.00627 0.00198	<0.00202 0.00202
m,p-Xylenes		<0.00399 0.00399	<0.00401 0.00401	0.00630 0.00404	<0.00398 0.00398	0.0277 0.00396	<0.00403 0.00403
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	0.00371 0.00202	<0.00199 0.00199	0.0128 0.00198	<0.00202 0.00202
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	0.0100 0.00202	<0.00199 0.00199	0.0405 0.00198	<0.00202 0.00202
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	0.0100 0.00202	<0.00199 0.00199	0.0504 0.00198	<0.00202 0.00202
Inorganic Anions by EPA 300	Extracted:	Mar-16-18 12:00	Mar-16-18 12:00	Mar-16-18 12:00	Mar-16-18 12:00	Mar-16-18 12:00	Mar-16-18 12:00
	Analyzed:	Mar-16-18 12:50	Mar-16-18 13:06	Mar-16-18 13:11	Mar-16-18 13:16	Mar-16-18 13:22	Mar-16-18 13:38
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<4.99 4.99	<4.98 4.98	262 4.91	1020 5.00	3990 25.0	2900 24.8
TPH by SW8015 Mod	Extracted:	Mar-16-18 10:00	Mar-16-18 10:00	Mar-16-18 10:00	Mar-16-18 10:00	Mar-16-18 10:00	Mar-16-18 10:00
	Analyzed:	Mar-16-18 13:19	Mar-16-18 14:38	Mar-16-18 15:04	Mar-16-18 15:30	Mar-16-18 15:56	Mar-16-18 16:22
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0	<15.0 15.0	15.3 15.0	<15.0 15.0	62.8 14.9	<15.0 15.0
Diesel Range Organics (DRO)		18.9 15.0	<15.0 15.0	483 15.0	387 15.0	2190 14.9	138 15.0
Oil Range Hydrocarbons (ORO)		<15.0 15.0	<15.0 15.0	64.0 15.0	52.6 15.0	48.0 14.9	<15.0 15.0
Total TPH		18.9 15.0	<15.0 15.0	562 15.0	440 15.0	2300 14.9	138 15.0

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

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 579458

LT Environmental, Inc., Arvada, CO

Project Name: ADU #517 30-015-24337



Project Id:

Contact: Adrian Baker

Project Location: Carlsbad, NM

Date Received in Lab: Fri Mar-16-18 08:40 am

Report Date: 20-MAR-18

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	579458-007	579458-008	579458-009	579458-010	579458-011	579458-012
	Field Id:	SW1	SW2	SW3	SW4	SW5	SW6
	Depth:	2- ft	2- ft	2- ft	2- ft	2- ft	2- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	Mar-15-18 14:30	Mar-15-18 14:35	Mar-15-18 14:40	Mar-15-18 14:45	Mar-15-18 14:50	Mar-15-18 14:55
BTEX by EPA 8021B	Extracted:	Mar-16-18 13:00	Mar-16-18 13:00	Mar-16-18 13:00	Mar-16-18 13:00	Mar-16-18 13:00	Mar-16-18 13:00
	Analyzed:	Mar-16-18 17:19	Mar-16-18 17:39	Mar-16-18 17:58	Mar-16-18 18:17	Mar-16-18 19:14	Mar-16-18 19:33
	Units/RL:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		RL	RL	RL	RL	RL	RL
Benzene		<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199
Toluene		<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199
Ethylbenzene		<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199
m,p-Xylenes		<0.00402 0.00402	<0.00398 0.00398	<0.00397 0.00397	<0.00404 0.00404	<0.00398 0.00398	<0.00398 0.00398
o-Xylene		<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199
Total Xylenes		<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199
Total BTEX		<0.00201 0.00201	<0.00199 0.00199	<0.00198 0.00198	<0.00202 0.00202	<0.00199 0.00199	<0.00199 0.00199
Inorganic Anions by EPA 300	Extracted:	Mar-16-18 12:00	Mar-16-18 12:00	Mar-16-18 12:00	Mar-16-18 12:00	Mar-16-18 12:00	Mar-16-18 12:00
	Analyzed:	Mar-16-18 13:43	Mar-16-18 13:48	Mar-16-18 13:54	Mar-16-18 13:59	Mar-16-18 14:04	Mar-16-18 14:20
	Units/RL:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		RL	RL	RL	RL	RL	RL
Chloride		<4.92 4.92	<4.92 4.92	<4.98 4.98	<4.94 4.94	<4.98 4.98	172 4.91
TPH by SW8015 Mod	Extracted:	Mar-16-18 10:00	Mar-16-18 10:00	Mar-16-18 10:00	Mar-16-18 10:00	Mar-16-18 10:00	Mar-16-18 10:00
	Analyzed:	Mar-16-18 16:49	Mar-16-18 17:15	Mar-16-18 17:41	Mar-16-18 18:06	Mar-16-18 19:22	Mar-16-18 19:48
	Units/RL:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
		RL	RL	RL	RL	RL	RL
Gasoline Range Hydrocarbons (GRO)		<14.9 14.9	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Diesel Range Organics (DRO)		<14.9 14.9	<14.9 14.9	181 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Oil Range Hydrocarbons (ORO)		<14.9 14.9	<14.9 14.9	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0
Total TPH		<14.9 14.9	<14.9 14.9	181 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analysis Summary 579458

LT Environmental, Inc., Arvada, CO

Project Name: ADU #517 30-015-24337



Project Id:

Contact: Adrian Baker

Project Location: Carlsbad, NM

Date Received in Lab: Fri Mar-16-18 08:40 am

Report Date: 20-MAR-18

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	579458-013	579458-014	579458-015	579458-016	579458-017	
	Field Id:	SW7	SW8	SW9	SW10	SW11	
	Depth:	1- ft	4- ft	4- ft	4- ft	4- ft	
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	
	Sampled:	Mar-15-18 15:20	Mar-15-18 15:00	Mar-15-18 15:05	Mar-15-18 15:10	Mar-15-18 15:15	
BTEX by EPA 8021B	Extracted:	Mar-16-18 13:00	Mar-16-18 13:00	Mar-16-18 13:00	Mar-16-18 13:00	Mar-16-18 13:00	
	Analyzed:	Mar-16-18 19:53	Mar-16-18 20:12	Mar-16-18 20:31	Mar-16-18 20:50	Mar-16-18 21:10	
	Units/RL:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
		RL	RL	RL	RL	RL	
Benzene		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	
Toluene		<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	
Ethylbenzene		0.00348 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	
m,p-Xylenes		0.00945 0.00403	<0.00401 0.00401	<0.00399 0.00399	<0.00402 0.00402	<0.00398 0.00398	
o-Xylene		0.00588 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	
Total Xylenes		0.0153 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	
Total BTEX		0.0188 0.00202	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00199 0.00199	
Inorganic Anions by EPA 300	Extracted:	Mar-16-18 12:00	Mar-16-18 12:00	Mar-16-18 12:00	Mar-16-18 12:00	Mar-16-18 12:00	
	Analyzed:	Mar-16-18 14:25	Mar-16-18 14:55	Mar-16-18 15:01	Mar-16-18 15:06	Mar-16-18 15:11	
	Units/RL:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
		RL	RL	RL	RL	RL	
Chloride		259 5.00	323 4.98	5340 49.4	8450 98.8	8100 49.1	
TPH by SW8015 Mod	Extracted:	Mar-16-18 10:00	Mar-16-18 10:00	Mar-16-18 10:00	Mar-16-18 10:00	Mar-16-18 10:00	
	Analyzed:	Mar-16-18 20:13	Mar-16-18 20:38	Mar-16-18 21:03	Mar-16-18 21:31	Mar-16-18 21:56	
	Units/RL:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	
		RL	RL	RL	RL	RL	
Gasoline Range Hydrocarbons (GRO)		17.8 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	
Diesel Range Organics (DRO)		664 15.0	146 15.0	19.7 15.0	<15.0 15.0	18.5 15.0	
Oil Range Hydrocarbons (ORO)		38.3 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	<15.0 15.0	
Total TPH		720 15.0	146 15.0	19.7 15.0	<15.0 15.0	18.5 15.0	

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

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Jessica Kramer

Jessica Kramer
Project Assistant



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **BH1**
Lab Sample Id: 579458-001

Matrix: Soil
Date Collected: 03.15.18 14.00

Date Received: 03.16.18 08.40
Sample Depth: 5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3044141

Date Prep: 03.16.18 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.99	4.99	mg/kg	03.16.18 12.50	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3044121

Date Prep: 03.16.18 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.16.18 13.19	U	1
Diesel Range Organics (DRO)	C10C28DRO	18.9	15.0	mg/kg	03.16.18 13.19		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.16.18 13.19	U	1
Total TPH	PHC635	18.9	15.0	mg/kg	03.16.18 13.19		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	03.16.18 13.19	
o-Terphenyl	84-15-1	107	%	70-135	03.16.18 13.19	



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **BH1**
Lab Sample Id: 579458-001

Matrix: Soil
Date Collected: 03.15.18 14.00

Date Received: 03.16.18 08.40
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.16.18 13.00

Basis: Wet Weight

Seq Number: 3044101

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.16.18 15.23	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.16.18 15.23	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.16.18 15.23	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.16.18 15.23	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.16.18 15.23	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.16.18 15.23	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.16.18 15.23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	78	%	70-130	03.16.18 15.23		
4-Bromofluorobenzene	460-00-4	114	%	70-130	03.16.18 15.23		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **BH2**
Lab Sample Id: 579458-002

Matrix: Soil
Date Collected: 03.15.18 14.05

Date Received: 03.16.18 08.40
Sample Depth: 5 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3044141

Date Prep: 03.16.18 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.98	4.98	mg/kg	03.16.18 13.06	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3044121

Date Prep: 03.16.18 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.16.18 14.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.16.18 14.38	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.16.18 14.38	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.16.18 14.38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	105	%	70-135	03.16.18 14.38		
o-Terphenyl	84-15-1	104	%	70-135	03.16.18 14.38		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **BH2**
Lab Sample Id: 579458-002

Matrix: Soil
Date Collected: 03.15.18 14.05

Date Received: 03.16.18 08.40
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.16.18 13.00

Basis: Wet Weight

Seq Number: 3044101

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.16.18 15.43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.16.18 15.43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.16.18 15.43	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.16.18 15.43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.16.18 15.43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.16.18 15.43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.16.18 15.43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	120	%	70-130	03.16.18 15.43		
1,4-Difluorobenzene	540-36-3	78	%	70-130	03.16.18 15.43		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **BH3**
Lab Sample Id: 579458-003

Matrix: Soil
Date Collected: 03.15.18 14.10

Date Received: 03.16.18 08.40
Sample Depth: 5 ft

Analytical Method: Inorganic Anions by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3044141

Prep Method: E300P
% Moisture:
Date Prep: 03.16.18 12.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	262	4.91	mg/kg	03.16.18 13.11		1

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3044121

Prep Method: TX1005P
% Moisture:
Date Prep: 03.16.18 10.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	15.3	15.0	mg/kg	03.16.18 15.04		1
Diesel Range Organics (DRO)	C10C28DRO	483	15.0	mg/kg	03.16.18 15.04		1
Oil Range Hydrocarbons (ORO)	PHCG2835	64.0	15.0	mg/kg	03.16.18 15.04		1
Total TPH	PHC635	562	15.0	mg/kg	03.16.18 15.04		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	104	%	70-135	03.16.18 15.04		
o-Terphenyl	84-15-1	110	%	70-135	03.16.18 15.04		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **BH3**
Lab Sample Id: 579458-003

Matrix: Soil
Date Collected: 03.15.18 14.10

Date Received: 03.16.18 08.40
Sample Depth: 5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.16.18 13.00

Basis: Wet Weight

Seq Number: 3044101

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	03.16.18 16.02	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	03.16.18 16.02	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	03.16.18 16.02	U	1
m,p-Xylenes	179601-23-1	0.00630	0.00404	mg/kg	03.16.18 16.02		1
o-Xylene	95-47-6	0.00371	0.00202	mg/kg	03.16.18 16.02		1
Total Xylenes	1330-20-7	0.0100	0.00202	mg/kg	03.16.18 16.02		1
Total BTEX		0.0100	0.00202	mg/kg	03.16.18 16.02		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	83		%	70-130	03.16.18 16.02	
4-Bromofluorobenzene	460-00-4	124		%	70-130	03.16.18 16.02	



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **BH4**
Lab Sample Id: 579458-004

Matrix: Soil
Date Collected: 03.15.18 14.15

Date Received: 03.16.18 08.40
Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3044141

Prep Method: E300P
% Moisture:
Date Prep: 03.16.18 12.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1020	5.00	mg/kg	03.16.18 13.16		1

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3044121

Prep Method: TX1005P
% Moisture:
Date Prep: 03.16.18 10.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.16.18 15.30	U	1
Diesel Range Organics (DRO)	C10C28DRO	387	15.0	mg/kg	03.16.18 15.30		1
Oil Range Hydrocarbons (ORO)	PHCG2835	52.6	15.0	mg/kg	03.16.18 15.30		1
Total TPH	PHC635	440	15.0	mg/kg	03.16.18 15.30		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	101	%	70-135	03.16.18 15.30		
o-Terphenyl	84-15-1	104	%	70-135	03.16.18 15.30		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **BH4**
Lab Sample Id: 579458-004

Matrix: Soil
Date Collected: 03.15.18 14.15

Date Received: 03.16.18 08.40
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.16.18 13.00

Basis: Wet Weight

Seq Number: 3044101

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.16.18 16.21	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.16.18 16.21	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.16.18 16.21	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.16.18 16.21	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.16.18 16.21	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.16.18 16.21	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.16.18 16.21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	130	%	70-130	03.16.18 16.21		
1,4-Difluorobenzene	540-36-3	78	%	70-130	03.16.18 16.21		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **BH5**
Lab Sample Id: 579458-005

Matrix: Soil
Date Collected: 03.15.18 14.20

Date Received: 03.16.18 08.40
Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3044141

Prep Method: E300P
% Moisture:
Date Prep: 03.16.18 12.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3990	25.0	mg/kg	03.16.18 13.22		5

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3044121

Prep Method: TX1005P
% Moisture:
Date Prep: 03.16.18 10.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	62.8	14.9	mg/kg	03.16.18 15.56		1
Diesel Range Organics (DRO)	C10C28DRO	2190	14.9	mg/kg	03.16.18 15.56		1
Oil Range Hydrocarbons (ORO)	PHCG2835	48.0	14.9	mg/kg	03.16.18 15.56		1
Total TPH	PHC635	2300	14.9	mg/kg	03.16.18 15.56		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	100	%	70-135	03.16.18 15.56		
o-Terphenyl	84-15-1	130	%	70-135	03.16.18 15.56		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **BH5**
Lab Sample Id: 579458-005

Matrix: Soil
Date Collected: 03.15.18 14.20

Date Received: 03.16.18 08.40
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.16.18 13.00

Basis: Wet Weight

Seq Number: 3044101

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	03.16.18 16.40	U	1
Toluene	108-88-3	0.00367	0.00198	mg/kg	03.16.18 16.40		1
Ethylbenzene	100-41-4	0.00627	0.00198	mg/kg	03.16.18 16.40		1
m,p-Xylenes	179601-23-1	0.0277	0.00396	mg/kg	03.16.18 16.40		1
o-Xylene	95-47-6	0.0128	0.00198	mg/kg	03.16.18 16.40		1
Total Xylenes	1330-20-7	0.0405	0.00198	mg/kg	03.16.18 16.40		1
Total BTEX		0.0504	0.00198	mg/kg	03.16.18 16.40		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	126		%	70-130	03.16.18 16.40	
1,4-Difluorobenzene	540-36-3	78		%	70-130	03.16.18 16.40	



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **BH6**
Lab Sample Id: 579458-006

Matrix: Soil
Date Collected: 03.15.18 14.25

Date Received: 03.16.18 08.40
Sample Depth: 7 ft

Analytical Method: Inorganic Anions by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3044141

Prep Method: E300P
% Moisture:
Date Prep: 03.16.18 12.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2900	24.8	mg/kg	03.16.18 13.38		5

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3044121

Prep Method: TX1005P
% Moisture:
Date Prep: 03.16.18 10.00
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.16.18 16.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	138	15.0	mg/kg	03.16.18 16.22		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.16.18 16.22	U	1
Total TPH	PHC635	138	15.0	mg/kg	03.16.18 16.22		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	97	%	70-135	03.16.18 16.22		
o-Terphenyl	84-15-1	99	%	70-135	03.16.18 16.22		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **BH6**
Lab Sample Id: 579458-006

Matrix: Soil
Date Collected: 03.15.18 14.25

Date Received: 03.16.18 08.40
Sample Depth: 7 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.16.18 13.00

Basis: Wet Weight

Seq Number: 3044101

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	03.16.18 17.00	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	03.16.18 17.00	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	03.16.18 17.00	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	03.16.18 17.00	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	03.16.18 17.00	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	03.16.18 17.00	U	1
Total BTEX		<0.00202	0.00202	mg/kg	03.16.18 17.00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	83	%	70-130	03.16.18 17.00		
4-Bromofluorobenzene	460-00-4	108	%	70-130	03.16.18 17.00		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **SW1**
Lab Sample Id: 579458-007

Matrix: Soil
Date Collected: 03.15.18 14.30

Date Received: 03.16.18 08.40
Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3044141

Date Prep: 03.16.18 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.92	4.92	mg/kg	03.16.18 13.43	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3044121

Date Prep: 03.16.18 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	03.16.18 16.49	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	03.16.18 16.49	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	03.16.18 16.49	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	03.16.18 16.49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	102	%	70-135	03.16.18 16.49		
o-Terphenyl	84-15-1	97	%	70-135	03.16.18 16.49		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **SW1**
Lab Sample Id: 579458-007

Matrix: Soil
Date Collected: 03.15.18 14.30

Date Received: 03.16.18 08.40
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.16.18 13.00

Basis: Wet Weight

Seq Number: 3044101

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.16.18 17.19	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.16.18 17.19	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.16.18 17.19	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.16.18 17.19	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.16.18 17.19	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.16.18 17.19	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.16.18 17.19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	125	%	70-130	03.16.18 17.19		
1,4-Difluorobenzene	540-36-3	80	%	70-130	03.16.18 17.19		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: SW2
Lab Sample Id: 579458-008

Matrix: Soil
Date Collected: 03.15.18 14.35

Date Received: 03.16.18 08.40
Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3044141

Date Prep: 03.16.18 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.92	4.92	mg/kg	03.16.18 13.48	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3044121

Date Prep: 03.16.18 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<14.9	14.9	mg/kg	03.16.18 17.15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<14.9	14.9	mg/kg	03.16.18 17.15	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<14.9	14.9	mg/kg	03.16.18 17.15	U	1
Total TPH	PHC635	<14.9	14.9	mg/kg	03.16.18 17.15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	100	%	70-135	03.16.18 17.15		
o-Terphenyl	84-15-1	91	%	70-135	03.16.18 17.15		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: SW2
Lab Sample Id: 579458-008

Matrix: Soil
Date Collected: 03.15.18 14.35

Date Received: 03.16.18 08.40
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.16.18 13.00

Basis: Wet Weight

Seq Number: 3044101

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.16.18 17.39	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.16.18 17.39	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.16.18 17.39	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.16.18 17.39	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.16.18 17.39	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.16.18 17.39	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.16.18 17.39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	80	%	70-130	03.16.18 17.39		
4-Bromofluorobenzene	460-00-4	125	%	70-130	03.16.18 17.39		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **SW3**
Lab Sample Id: 579458-009

Matrix: Soil
Date Collected: 03.15.18 14.40

Date Received: 03.16.18 08.40
Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3044141

Date Prep: 03.16.18 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.98	4.98	mg/kg	03.16.18 13.54	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3044121

Date Prep: 03.16.18 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.16.18 17.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	181	15.0	mg/kg	03.16.18 17.41		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.16.18 17.41	U	1
Total TPH	PHC635	181	15.0	mg/kg	03.16.18 17.41		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	102	%	70-135	03.16.18 17.41		
o-Terphenyl	84-15-1	101	%	70-135	03.16.18 17.41		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **SW3**
Lab Sample Id: 579458-009

Matrix: Soil
Date Collected: 03.15.18 14.40

Date Received: 03.16.18 08.40
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.16.18 13.00

Basis: Wet Weight

Seq Number: 3044101

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	03.16.18 17.58	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	03.16.18 17.58	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	03.16.18 17.58	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	03.16.18 17.58	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	03.16.18 17.58	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	03.16.18 17.58	U	1
Total BTEX		<0.00198	0.00198	mg/kg	03.16.18 17.58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	86	%	70-130	03.16.18 17.58		
4-Bromofluorobenzene	460-00-4	118	%	70-130	03.16.18 17.58		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **SW4**
Lab Sample Id: 579458-010

Matrix: Soil
Date Collected: 03.15.18 14.45

Date Received: 03.16.18 08.40
Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3044141

Date Prep: 03.16.18 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.94	4.94	mg/kg	03.16.18 13.59	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3044121

Date Prep: 03.16.18 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.16.18 18.06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.16.18 18.06	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.16.18 18.06	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.16.18 18.06	U	1

Surrogate

1-Chlorooctane

o-Terphenyl

Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
111-85-3	101	%	70-135	03.16.18 18.06	
84-15-1	100	%	70-135	03.16.18 18.06	



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **SW4**
Lab Sample Id: 579458-010

Matrix: Soil
Date Collected: 03.15.18 14.45

Date Received: 03.16.18 08.40
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.16.18 13.00

Basis: Wet Weight

Seq Number: 3044101

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	03.16.18 18.17	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	03.16.18 18.17	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	03.16.18 18.17	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	03.16.18 18.17	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	03.16.18 18.17	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	03.16.18 18.17	U	1
Total BTEX		<0.00202	0.00202	mg/kg	03.16.18 18.17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	81	%	70-130	03.16.18 18.17		
4-Bromofluorobenzene	460-00-4	120	%	70-130	03.16.18 18.17		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: SW5
Lab Sample Id: 579458-011

Matrix: Soil
Date Collected: 03.15.18 14.50

Date Received: 03.16.18 08.40
Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3044141

Date Prep: 03.16.18 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<4.98	4.98	mg/kg	03.16.18 14.04	U	1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3044121

Date Prep: 03.16.18 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.16.18 19.22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.16.18 19.22	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.16.18 19.22	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.16.18 19.22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	107	%	70-135	03.16.18 19.22		
o-Terphenyl	84-15-1	102	%	70-135	03.16.18 19.22		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: SW5
Lab Sample Id: 579458-011

Matrix: Soil
Date Collected: 03.15.18 14.50

Date Received: 03.16.18 08.40
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.16.18 13.00

Basis: Wet Weight

Seq Number: 3044101

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.16.18 19.14	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.16.18 19.14	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.16.18 19.14	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.16.18 19.14	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.16.18 19.14	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.16.18 19.14	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.16.18 19.14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	89	%	70-130	03.16.18 19.14		
4-Bromofluorobenzene	460-00-4	129	%	70-130	03.16.18 19.14		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **SW6**
Lab Sample Id: 579458-012

Matrix: Soil
Date Collected: 03.15.18 14.55

Date Received: 03.16.18 08.40
Sample Depth: 2 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3044141

Date Prep: 03.16.18 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	172	4.91	mg/kg	03.16.18 14.20		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3044121

Date Prep: 03.16.18 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.16.18 19.48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.16.18 19.48	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.16.18 19.48	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.16.18 19.48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	102	%	70-135	03.16.18 19.48		
o-Terphenyl	84-15-1	100	%	70-135	03.16.18 19.48		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **SW6**
Lab Sample Id: 579458-012

Matrix: Soil
Date Collected: 03.15.18 14.55

Date Received: 03.16.18 08.40
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.16.18 13.00

Basis: Wet Weight

Seq Number: 3044101

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.16.18 19.33	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.16.18 19.33	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.16.18 19.33	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.16.18 19.33	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.16.18 19.33	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.16.18 19.33	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.16.18 19.33	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	83	%	70-130	03.16.18 19.33		
4-Bromofluorobenzene	460-00-4	122	%	70-130	03.16.18 19.33		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: SW7
Lab Sample Id: 579458-013

Matrix: Soil
Date Collected: 03.15.18 15.20

Date Received: 03.16.18 08.40
Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3044141

Date Prep: 03.16.18 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	259	5.00	mg/kg	03.16.18 14.25		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3044121

Date Prep: 03.16.18 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	17.8	15.0	mg/kg	03.16.18 20.13		1
Diesel Range Organics (DRO)	C10C28DRO	664	15.0	mg/kg	03.16.18 20.13		1
Oil Range Hydrocarbons (ORO)	PHCG2835	38.3	15.0	mg/kg	03.16.18 20.13		1
Total TPH	PHC635	720	15.0	mg/kg	03.16.18 20.13		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	101	%	70-135	03.16.18 20.13		
o-Terphenyl	84-15-1	103	%	70-135	03.16.18 20.13		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **SW7**
Lab Sample Id: 579458-013

Matrix: Soil
Date Collected: 03.15.18 15.20

Date Received: 03.16.18 08.40
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.16.18 13.00

Basis: Wet Weight

Seq Number: 3044101

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	03.16.18 19.53	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	03.16.18 19.53	U	1
Ethylbenzene	100-41-4	0.00348	0.00202	mg/kg	03.16.18 19.53		1
m,p-Xylenes	179601-23-1	0.00945	0.00403	mg/kg	03.16.18 19.53		1
o-Xylene	95-47-6	0.00588	0.00202	mg/kg	03.16.18 19.53		1
Total Xylenes	1330-20-7	0.0153	0.00202	mg/kg	03.16.18 19.53		1
Total BTEX		0.0188	0.00202	mg/kg	03.16.18 19.53		1
Surrogate	Cas Number	% Recovery		Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	119		%	70-130	03.16.18 19.53	
1,4-Difluorobenzene	540-36-3	77		%	70-130	03.16.18 19.53	



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **SW8**
Lab Sample Id: 579458-014

Matrix: Soil
Date Collected: 03.15.18 15.00

Date Received: 03.16.18 08.40
Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3044141

Date Prep: 03.16.18 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	323	4.98	mg/kg	03.16.18 14.55		1

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3044121

Date Prep: 03.16.18 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.16.18 20.38	U	1
Diesel Range Organics (DRO)	C10C28DRO	146	15.0	mg/kg	03.16.18 20.38		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.16.18 20.38	U	1
Total TPH	PHC635	146	15.0	mg/kg	03.16.18 20.38		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	03.16.18 20.38	
o-Terphenyl	84-15-1	94	%	70-135	03.16.18 20.38	



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **SW8**
Lab Sample Id: 579458-014

Matrix: Soil
Date Collected: 03.15.18 15.00

Date Received: 03.16.18 08.40
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.16.18 13.00

Basis: Wet Weight

Seq Number: 3044101

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.16.18 20.12	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.16.18 20.12	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.16.18 20.12	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	03.16.18 20.12	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.16.18 20.12	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.16.18 20.12	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.16.18 20.12	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	77	%	70-130	03.16.18 20.12		
4-Bromofluorobenzene	460-00-4	110	%	70-130	03.16.18 20.12		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **SW9**
Lab Sample Id: 579458-015

Matrix: Soil
Date Collected: 03.15.18 15.05

Date Received: 03.16.18 08.40
Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300
Tech: OJS
Analyst: OJS
Seq Number: 3044141

Date Prep: 03.16.18 12.00

Prep Method: E300P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5340	49.4	mg/kg	03.16.18 15.01		10

Analytical Method: TPH by SW8015 Mod
Tech: ARM
Analyst: ARM
Seq Number: 3044121

Date Prep: 03.16.18 10.00

Prep Method: TX1005P
% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.16.18 21.03	U	1
Diesel Range Organics (DRO)	C10C28DRO	19.7	15.0	mg/kg	03.16.18 21.03		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.16.18 21.03	U	1
Total TPH	PHC635	19.7	15.0	mg/kg	03.16.18 21.03		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	98	%	70-135	03.16.18 21.03		
o-Terphenyl	84-15-1	99	%	70-135	03.16.18 21.03		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **SW9**
Lab Sample Id: 579458-015

Matrix: Soil
Date Collected: 03.15.18 15.05

Date Received: 03.16.18 08.40
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.16.18 13.00

Basis: Wet Weight

Seq Number: 3044101

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.16.18 20.31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.16.18 20.31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.16.18 20.31	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.16.18 20.31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.16.18 20.31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.16.18 20.31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.16.18 20.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	83	%	70-130	03.16.18 20.31		
4-Bromofluorobenzene	460-00-4	115	%	70-130	03.16.18 20.31		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **SW10**
Lab Sample Id: 579458-016

Matrix: Soil
Date Collected: 03.15.18 15.10

Date Received: 03.16.18 08.40
Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3044141

Date Prep: 03.16.18 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8450	98.8	mg/kg	03.16.18 15.06		20

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3044121

Date Prep: 03.16.18 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.16.18 21.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.16.18 21.31	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.16.18 21.31	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.16.18 21.31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	94	%	70-135	03.16.18 21.31		
o-Terphenyl	84-15-1	95	%	70-135	03.16.18 21.31		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **SW10**
Lab Sample Id: 579458-016

Matrix: Soil
Date Collected: 03.15.18 15.10

Date Received: 03.16.18 08.40
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.16.18 13.00

Basis: Wet Weight

Seq Number: 3044101

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	03.16.18 20.50	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	03.16.18 20.50	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	03.16.18 20.50	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	03.16.18 20.50	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	03.16.18 20.50	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	03.16.18 20.50	U	1
Total BTEX		<0.00201	0.00201	mg/kg	03.16.18 20.50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	128	%	70-130	03.16.18 20.50		
1,4-Difluorobenzene	540-36-3	85	%	70-130	03.16.18 20.50		



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **SW11**
Lab Sample Id: 579458-017

Matrix: Soil
Date Collected: 03.15.18 15.15

Date Received: 03.16.18 08.40
Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: OJS

Analyst: OJS

Seq Number: 3044141

Date Prep: 03.16.18 12.00

Prep Method: E300P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8100	49.1	mg/kg	03.16.18 15.11		10

Analytical Method: TPH by SW8015 Mod

Tech: ARM

Analyst: ARM

Seq Number: 3044121

Date Prep: 03.16.18 10.00

Prep Method: TX1005P

% Moisture:

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.16.18 21.56	U	1
Diesel Range Organics (DRO)	C10C28DRO	18.5	15.0	mg/kg	03.16.18 21.56		1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.16.18 21.56	U	1
Total TPH	PHC635	18.5	15.0	mg/kg	03.16.18 21.56		1

Surrogate

1-Chlorooctane

o-Terphenyl

Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
111-85-3	95	%	70-135	03.16.18 21.56	
84-15-1	96	%	70-135	03.16.18 21.56	



Certificate of Analytical Results 579458



LT Environmental, Inc., Arvada, CO

ADU #517 30-015-24337

Sample Id: **SW11**
Lab Sample Id: 579458-017

Matrix: Soil
Date Collected: 03.15.18 15.15

Date Received: 03.16.18 08.40
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5030B

Tech: ALJ

% Moisture:

Analyst: ALJ

Date Prep: 03.16.18 13.00

Basis: Wet Weight

Seq Number: 3044101

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.16.18 21.10	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.16.18 21.10	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.16.18 21.10	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.16.18 21.10	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.16.18 21.10	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.16.18 21.10	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.16.18 21.10	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	124	%	70-130	03.16.18 21.10		
1,4-Difluorobenzene	540-36-3	80	%	70-130	03.16.18 21.10		

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

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

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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



QC Summary 579458

LT Environmental, Inc.

ADU #517 30-015-24337

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3044141

MB Sample Id: 7640940-1-BLK

Matrix: Solid

LCS Sample Id: 7640940-1-BKS

Prep Method: E300P

Date Prep: 03.16.18

LCSD Sample Id: 7640940-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RP D	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	225	90	228	91	90-110	1	20	mg/kg	03.16.18 12:39	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3044141

Parent Sample Id: 579458-001

Matrix: Soil

MS Sample Id: 579458-001 S

Prep Method: E300P

Date Prep: 03.16.18

MSD Sample Id: 579458-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RP D	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.99	250	244	98	252	101	90-110	3	20	mg/kg	03.16.18 12:55	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3044141

Parent Sample Id: 579458-011

Matrix: Soil

MS Sample Id: 579458-011 S

Prep Method: E300P

Date Prep: 03.16.18

MSD Sample Id: 579458-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RP D	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.98	249	250	100	249	100	90-110	0	20	mg/kg	03.16.18 14:09	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3044121

MB Sample Id: 7641052-1-BLK

Matrix: Solid

LCS Sample Id: 7641052-1-BKS

Prep Method: TX1005P

Date Prep: 03.16.18

LCSD Sample Id: 7641052-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RP D	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	938	94	948	95	70-135	1	35	mg/kg	03.16.18 12:27	
Diesel Range Organics (DRO)	<15.0	1000	967	97	978	98	70-135	1	35	mg/kg	03.16.18 12:27	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		106		103		70-135	%	03.16.18 12:27
o-Terphenyl	99		103		101		70-135	%	03.16.18 12:27

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

$[D] = 100 * (C - A) / B$
 $RPD = 200 * |(C - E) / (C + E)|$
 $[D] = 100 * (C) / [B]$

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 579458

LT Environmental, Inc.

ADU #517 30-015-24337

Analytical Method: TPH by SW8015 Mod

Seq Number: 3044121

Parent Sample Id: 579458-001

Matrix: Soil

MS Sample Id: 579458-001 S

Prep Method: TX1005P

Date Prep: 03.16.18

MSD Sample Id: 579458-001 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 Hydrocarbons (GRO)	<15.0	998	1030	103	943	94	70-135	9	35	mg/kg	03.16.18 13:46	
Diesel Range Organics (DRO)	18.9	998	1040	102	1010	99	70-135	3	35	mg/kg	03.16.18 13:46	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	112		105		70-135	%	03.16.18 13:46
o-Terphenyl	109		101		70-135	%	03.16.18 13:46

Analytical Method: BTEX by EPA 8021B

Seq Number: 3044101

MB Sample Id: 7641014-1-BLK

Matrix: Solid

LCS Sample Id: 7641014-1-BKS

Prep Method: SW5030B

Date Prep: 03.16.18

LCSD Sample Id: 7641014-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RP D	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0985	99	0.102	101	70-130	3	35	mg/kg	03.16.18 13:27	
Toluene	<0.00200	0.100	0.106	106	0.110	109	70-130	4	35	mg/kg	03.16.18 13:27	
Ethylbenzene	<0.00200	0.100	0.119	119	0.127	126	70-130	7	35	mg/kg	03.16.18 13:27	
m,p-Xylenes	<0.00401	0.200	0.240	120	0.252	125	70-130	5	35	mg/kg	03.16.18 13:27	
o-Xylene	<0.00200	0.100	0.118	118	0.123	122	70-130	4	35	mg/kg	03.16.18 13:27	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	80		86		87		70-130	%	03.16.18 13:27
4-Bromofluorobenzene	120		113		124		70-130	%	03.16.18 13:27

Analytical Method: BTEX by EPA 8021B

Seq Number: 3044101

Parent Sample Id: 579458-001

Matrix: Soil

MS Sample Id: 579458-001 S

Prep Method: SW5030B

Date Prep: 03.16.18

MSD Sample Id: 579458-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RP D	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0477	48	0.0533	53	70-130	11	35	mg/kg	03.16.18 14:06	X
Toluene	<0.00199	0.0994	0.0509	51	0.0554	56	70-130	8	35	mg/kg	03.16.18 14:06	X
Ethylbenzene	<0.00199	0.0994	0.0575	58	0.0604	61	70-130	5	35	mg/kg	03.16.18 14:06	X
m,p-Xylenes	<0.00398	0.199	0.114	57	0.119	60	70-130	4	35	mg/kg	03.16.18 14:06	X
o-Xylene	<0.00199	0.0994	0.0554	56	0.0585	59	70-130	5	35	mg/kg	03.16.18 14:06	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	85		84		70-130	%	03.16.18 14:06
4-Bromofluorobenzene	126		127		70-130	%	03.16.18 14:06

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

$[D] = 100 * (C-A) / B$
 $RPD = 200 * |(C-E) / (C+E)|$
 $[D] = 100 * (C) / [B]$

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

Setting the Standard since 1990
Stafford, Texas (281-240-4200)
Dallas Texas (214-902-0300)

San Antonio, Texas (210-509-3334)
Midland, Texas (432-704-5251)

Phoenix, Arizona (480-355-0900)

www.xenco.com

Client / Reporting Information										Project Information										Analytical Information										Matrix Codes									
Company Name / Branch: LA / Perrin										Project Name/Number: ADU #517										Xenco Quote #										Xenco Job #									
Company Address: 3300 N. A St Suite 103										Project Location: Carlsbad, NM										579458																			
Email: abaker@lham.com										Phone No: 815 503 8021																													
Project Contact: Abbie Baker										Invoice To: Kyle Lethell																													
Sampler's Name										PO Number:																													
No.										Field ID / Point of Collection																													
										Collection																													
										Sample Depth																													
										Date																													
										Time																													
										Matrix																													
										# of bottles																													
										HCl																													
										NaOH/Zn Acetate																													
										HNO3																													
										H2SO4																													
										NaOH																													
										NaHSO4																													
										MeOH																													
										NONE																													
										Number of preserved bottles																													
										Date Deliverable Information																													
										Turnaround Time (Business days)																													
										Same Day TAT																													
										5 Day TAT																													
										Next Day EMERGENCY																													
										7 Day TAT																													
										2 Day EMERGENCY																													
										Contract TAT																													
										3 Day EMERGENCY																													
										TRRP Checklist																													
										TAT Starts Day received by Lab, if received by 5:00 pm																													
										SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																													
										Relinquished by Sampler:																													
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Phoenix, Arizona (480-355-0900)

579458

Client / Reporting Information						Project Information								Xenco Quote #		Xenco Job #							
Company Name / Branch: G / Permana						Project Name/Number: APV #517 30-015-24337																	
Company Address: 3200 N A St Suite 103						Project Location: Catalina NM																	
Email: akater@permana.com Phone No.: 432-SW41						Invoice To: Kyle Littel																	
Project Contact: Alicia Barker						PO Number:																	
Sampler's Name																							
No.	Field ID / Point of Collection					Collection		Number of preserved bottles								Analytical Information		Matrix Codes					
		Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MECH	NONE									
1	SWS	2'	9/15	MCD	S	1								X	Urbane 300.1								
2	SWS	2'		1455										X	TPT (600,000, micro)								
3	SWS	1'		1530																			
4	SWS	4'		1500																			
5	SWS	4'		1505																			
6	SWS	4'		1510																			
7	SWS	4'		1515																			
8																							
9																							
10																							
Turnaround Time (Business days)						Data Deliverable Information								Notes:									
☐ Same Day TAT						☐ Level II Std QC						☐ Level IV (Full Data Pkg / raw data)											
☐ Next Day EMERGENCY						☐ 7 Day TAT						☐ Level III Std QC+ Forms						☐ TRRP Level IV					
☐ 2 Day EMERGENCY						☐ Contract TAT						☐ Level 3 (CLP Forms)						☐ UST / RG -411					
☒ 3 Day EMERGENCY												☐ TRRP Checklist											
TAT Starts Day received by Lab, if received by 5:00 pm																							
SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY																							
Relinquished by Sampler:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:		Date Time:		Received By:							
1		3/15 SW		1		SW		2		SW		3		SW		4							
Relinquished by:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:		Date Time:		Received By:							
3				3				4				5				6							
Relinquished by:		Date Time:		Received By:		Date Time:		Relinquished By:		Date Time:		Received By:		Date Time:		Received By:							
5				5				6				7				8							

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenox, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenox 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 Xenox. A minimum charge of \$75 will be applied to each project. Xenox's liability will be limited to the cost of samples. Any samples received by Xenox but not analyzed will be invoiced at \$5 per sample. These terms will be enforced unless expressly negotiated under a fully executed client contract.



XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In



Client: LT Environmental, Inc.

Date/ Time Received: 03/16/2018 08:40:00 AM

Work Order #: 579458

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : R8

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:

Connie Hernandez

Connie Hernandez

Date: 03/16/2018

Checklist reviewed by:

Jessica Kramer

Jessica Kramer

Date: 03/16/2018

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1804847**

Date Reported:

CLIENT: LTE

Client Sample ID: BH4A

Project: ADU 517

Collection Date: 4/12/2018 10:00:00 AM

Lab ID: 1804847-001

Matrix: MEOH (SOIL)

Received Date: 4/17/2018 9:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	250	30		mg/Kg	20	4/17/2018 1:24:00 PM	37649
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	18		mg/Kg	5	4/17/2018 11:29:37 AM	R50621
Surr: BFB	107	70-130		%Rec	5	4/17/2018 11:29:37 AM	R50621
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	18	9.7		mg/Kg	1	4/17/2018 11:44:11 AM	37641
Motor Oil Range Organics (MRO)	ND	49		mg/Kg	1	4/17/2018 11:44:11 AM	37641
Surr: DNOP	85.9	70-130		%Rec	1	4/17/2018 11:44:11 AM	37641
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.089		mg/Kg	5	4/17/2018 11:29:37 AM	R50621
Toluene	ND	0.18		mg/Kg	5	4/17/2018 11:29:37 AM	R50621
Ethylbenzene	ND	0.18		mg/Kg	5	4/17/2018 11:29:37 AM	R50621
Xylenes, Total	ND	0.35		mg/Kg	5	4/17/2018 11:29:37 AM	R50621
Surr: 4-Bromofluorobenzene	117	70-130		%Rec	5	4/17/2018 11:29:37 AM	R50621
Surr: Toluene-d8	103	70-130		%Rec	5	4/17/2018 11:29:37 AM	R50621

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1804847**

Date Reported:

CLIENT: LTE

Client Sample ID: BH5A

Project: ADU 517

Collection Date: 4/12/2018 11:20:00 AM

Lab ID: 1804847-002

Matrix: MEOH (SOIL)

Received Date: 4/17/2018 9:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	240	30		mg/Kg	20	4/17/2018 1:36:00 PM	37649
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	20		mg/Kg	5	4/17/2018 11:52:47 AM	R50621
Surr: BFB	108	70-130		%Rec	5	4/17/2018 11:52:47 AM	R50621
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	9.4	9.0		mg/Kg	1	4/17/2018 12:08:33 PM	37641
Motor Oil Range Organics (MRO)	ND	45		mg/Kg	1	4/17/2018 12:08:33 PM	37641
Surr: DNOP	82.5	70-130		%Rec	1	4/17/2018 12:08:33 PM	37641
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.099		mg/Kg	5	4/17/2018 11:52:47 AM	R50621
Toluene	ND	0.20		mg/Kg	5	4/17/2018 11:52:47 AM	R50621
Ethylbenzene	ND	0.20		mg/Kg	5	4/17/2018 11:52:47 AM	R50621
Xylenes, Total	ND	0.40		mg/Kg	5	4/17/2018 11:52:47 AM	R50621
Surr: 4-Bromofluorobenzene	117	70-130		%Rec	5	4/17/2018 11:52:47 AM	R50621
Surr: Toluene-d8	103	70-130		%Rec	5	4/17/2018 11:52:47 AM	R50621

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1804847**

Date Reported:

CLIENT: LTE**Client Sample ID:** BH6A**Project:** ADU 517**Collection Date:** 4/12/2018 1:00:00 PM**Lab ID:** 1804847-003**Matrix:** MEOH (SOIL)**Received Date:** 4/17/2018 9:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	550	30		mg/Kg	20	4/17/2018 1:48:00 PM	37649
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	3.1		mg/Kg	1	4/17/2018 12:15:53 PM	R50621
Surr: BFB	121	70-130		%Rec	1	4/17/2018 12:15:53 PM	R50621
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	4/17/2018 12:33:08 PM	37641
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/17/2018 12:33:08 PM	37641
Surr: DNOP	86.6	70-130		%Rec	1	4/17/2018 12:33:08 PM	37641
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.016		mg/Kg	1	4/17/2018 12:15:53 PM	R50621
Toluene	ND	0.031		mg/Kg	1	4/17/2018 12:15:53 PM	R50621
Ethylbenzene	ND	0.031		mg/Kg	1	4/17/2018 12:15:53 PM	R50621
Xylenes, Total	ND	0.062		mg/Kg	1	4/17/2018 12:15:53 PM	R50621
Surr: 4-Bromofluorobenzene	133	70-130	S	%Rec	1	4/17/2018 12:15:53 PM	R50621
Surr: Toluene-d8	97.1	70-130		%Rec	1	4/17/2018 12:15:53 PM	R50621

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1804847**

Date Reported:

CLIENT: LTE**Client Sample ID:** SW9A**Project:** ADU 517**Collection Date:** 4/12/2018 1:30:00 PM**Lab ID:** 1804847-004**Matrix:** MEOH (SOIL)**Received Date:** 4/17/2018 9:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	330	30		mg/Kg	20	4/17/2018 2:01:00 PM	37649
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	4/17/2018 2:38:24 PM	R50621
Surr: BFB	116	70-130		%Rec	1	4/17/2018 2:38:24 PM	R50621
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.6		mg/Kg	1	4/17/2018 12:57:35 PM	37641
Motor Oil Range Organics (MRO)	ND	48		mg/Kg	1	4/17/2018 12:57:35 PM	37641
Surr: DNOP	85.6	70-130		%Rec	1	4/17/2018 12:57:35 PM	37641
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.019		mg/Kg	1	4/17/2018 2:38:24 PM	R50621
Toluene	ND	0.038		mg/Kg	1	4/17/2018 2:38:24 PM	R50621
Ethylbenzene	ND	0.038		mg/Kg	1	4/17/2018 2:38:24 PM	R50621
Xylenes, Total	ND	0.076		mg/Kg	1	4/17/2018 2:38:24 PM	R50621
Surr: 4-Bromofluorobenzene	126	70-130		%Rec	1	4/17/2018 2:38:24 PM	R50621
Surr: Toluene-d8	95.4	70-130		%Rec	1	4/17/2018 2:38:24 PM	R50621

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	Page 4 of 0
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range	
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1804847**

Date Reported:

CLIENT: LTE

Client Sample ID: SW10A

Project: ADU 517

Collection Date: 4/12/2018 2:10:00 PM

Lab ID: 1804847-005

Matrix: MEOH (SOIL)

Received Date: 4/17/2018 9:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	91	30		mg/Kg	20	4/17/2018 2:13:00 PM	37649
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	3.8		mg/Kg	1	4/17/2018 3:01:28 PM	R50621
Surr: BFB	115	70-130		%Rec	1	4/17/2018 3:01:28 PM	R50621
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.9		mg/Kg	1	4/17/2018 1:22:00 PM	37641
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	4/17/2018 1:22:00 PM	37641
Surr: DNOP	86.0	70-130		%Rec	1	4/17/2018 1:22:00 PM	37641
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.019		mg/Kg	1	4/17/2018 3:01:28 PM	R50621
Toluene	ND	0.038		mg/Kg	1	4/17/2018 3:01:28 PM	R50621
Ethylbenzene	ND	0.038		mg/Kg	1	4/17/2018 3:01:28 PM	R50621
Xylenes, Total	ND	0.076		mg/Kg	1	4/17/2018 3:01:28 PM	R50621
Surr: 4-Bromofluorobenzene	125	70-130		%Rec	1	4/17/2018 3:01:28 PM	R50621
Surr: Toluene-d8	90.4	70-130		%Rec	1	4/17/2018 3:01:28 PM	R50621

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Analytical Report

Lab Order **1804847**

Date Reported:

CLIENT: LTE

Client Sample ID: SW11A

Project: ADU 517

Collection Date: 4/12/2018 2:40:00 PM

Lab ID: 1804847-006

Matrix: MEOH (SOIL)

Received Date: 4/17/2018 9:05:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS							Analyst: MRA
Chloride	95	30		mg/Kg	20	4/17/2018 2:26:00 PM	37649
EPA METHOD 8015D MOD: GASOLINE RANGE							Analyst: AG
Gasoline Range Organics (GRO)	ND	4.0		mg/Kg	1	4/17/2018 3:24:38 PM	R50621
Surr: BFB	115	70-130		%Rec	1	4/17/2018 3:24:38 PM	R50621
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS							Analyst: TOM
Diesel Range Organics (DRO)	ND	9.4		mg/Kg	1	4/17/2018 1:46:21 PM	37641
Motor Oil Range Organics (MRO)	ND	47		mg/Kg	1	4/17/2018 1:46:21 PM	37641
Surr: DNOP	85.3	70-130		%Rec	1	4/17/2018 1:46:21 PM	37641
EPA METHOD 8260B: VOLATILES SHORT LIST							Analyst: AG
Benzene	ND	0.020		mg/Kg	1	4/17/2018 3:24:38 PM	R50621
Toluene	ND	0.040		mg/Kg	1	4/17/2018 3:24:38 PM	R50621
Ethylbenzene	ND	0.040		mg/Kg	1	4/17/2018 3:24:38 PM	R50621
Xylenes, Total	ND	0.080		mg/Kg	1	4/17/2018 3:24:38 PM	R50621
Surr: 4-Bromofluorobenzene	125	70-130		%Rec	1	4/17/2018 3:24:38 PM	R50621
Surr: Toluene-d8	93.3	70-130		%Rec	1	4/17/2018 3:24:38 PM	R50621

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
	ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
	PQL	Practical Quantitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified