LT Environmental, Inc.
3300 North A Street, Building 1, #103
Midland, Texas 79705
T 432.704.5178 / F 432.704.5179

June 15, 2018

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

RE: Closure Request
Nash #042 Tank Battery
Remediation Permit Number 2RP-4527
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 a crude oil release at the Nash #042 Tank Battery (Site) in Unit Letter E, Section 18, Township 23 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the excavation activities was to address impacts to soil after approximately 350 barrels (bbls) of crude oil were released into a lined secondary containment within the tank battery. The release plugged a dump line on a gun barrel causing a tank to overfill, resulting in a release 4 gallons of crude oil from the vent line into the vapor recovery unit (VRU) skid outside of secondary containment and onto the well pad. The release was discovered on December 4, 2017. The release impacted approximately 400 square feet of well pad outside the secondary containment. Approximately 350 bbls of free-standing oil were recovered using a vacuum-truck from inside the secondary containment. The secondary containment and equipment were power washed. The liner was inspected by the Maintenance Forman for damage and determined to be intact with no apparent damage. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 on December 5, 2017, and was assigned Remediation Permit Number (RP) 2RP-4527 (Attachment 1). Initial sampling was conducted to characterize the release, followed by excavation of impacted soil. Based on the results of excavation confirmation sampling as described herein, 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 C 03478 POD1, located approximately 2.43 miles southeast of the Site, with a depth to groundwater of 105 feet bgs and a total depth of 230 feet bgs. The closest surface water to the Site is a dry arroyo located approximately 455 feet southwest 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 10, 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 1,000 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.

SOIL SAMPLING

On December 13, 2017, an LTE scientist collected five soil samples from a depth of six inches bgs (SS1 through SS5) to determine the extent of soil impact immediately following the release. Samples were screened for volatile aromatic hydrocarbons using a photo-ionization detector (PID) equipped with a 10.6 electron volt lamp in accordance with the NMOCD *Guidelines for Remediation of Leaks, Spills and Releases*, August 13, 1993. Hydrocarbon-odor was detected in soil samples SS1 and SS2. The soil samples were placed directly into pre-cleaned glass jars, labeled with location, date, time, sampler, and method of analysis, and immediately placed on ice. The samples were delivered at 4 degrees Celsius (°C) under strict chain-of-custody procedures to ESC Lab Sciences in Mt. Juliet, Tennessee, for laboratory analysis of BTEX by United States Environmental Protection Agency (EPA) Method 8021B, total petroleum hydrocarbons (TPH)-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-motor oil range organics (MRO) by EPA Method SW8015 Modified, and chloride by EPA Method 300. Surface soil locations are depicted on Figure 2.

Laboratory analytical results indicated four soil samples (SS1, SS2, SS4, and SS5) exceeded the site-specific remediation action level for total BTEX and TPH. Soil sample SS2 additionally exceeded the remediation action level for benzene. Soil samples SS2 and SS5 exceeded the remediation action level for chloride. Analytical results are depicted on Figure 2 and summarized in Table 1, and the complete laboratory reports are attached.

EXCAVATION ACTIVITIES

Based on results of the initial sampling, XTO excavated the footprint of the release with a hydro-vacuum on February 20, 2018, to a depth of 2.5 feet bgs. LTE collected sidewall soil samples (EX-1 through EX-6) and excavation floor soil samples (FS-1 and FS-2). On March 7, 2018, the entire excavation was extended to a depth of 4 feet bgs. Following the removal of additional soil from the excavation, LTE collected excavation sidewall soil samples (EX-7, EX-8, and EX-9) and an excavation floor soil sample (FS-3). On May 10, 2018, additional soil was removed from the northeastern portion of the excavation and LTE collected one final soil sample (EX-10) from the east sidewall on the northern portion of the excavation. All soil samples were collected and handled as previously described, and submitted to either Xenco Laboratories in Midland, Texas, or Hall Environmental Analysis Laboratory in Albuquerque, New Mexico, for analysis of BTEX, TPH-GRO, TPH-DRO, TPH-MRO, and chloride.

The final excavation was approximately 400 square feet in area and extended to a depth of approximately 4 feet bgs. Approximately 48 cubic yards of impacted soil were removed by hydro-vacuum or hand digging since the excavation was within 10 feet of production equipment. All impacted soil was transported and properly disposed of at Halfway Landfarm in Hobbs, New Mexico. The excavation footprint and excavation soil sample locations are depicted on Figure 3.

ANALYTICAL RESULTS

Laboratory analytical results indicated three excavation soil samples (EX-3, EX-4, and EX-5) exceeded the site-specific remediation action level for TPH and four soil samples (EX-4, EX-7, FS-1, and FS-2) exceeded the site-specific remediation action level for chloride. The excavation was extended laterally and vertically in those areas, and all subsequent laboratory analytical results indicated TPH and chloride concentrations were compliant with the site-specific remediation action levels. Laboratory analytical results indicated benzene, total BTEX, TPH, and chloride concentrations were compliant with the NMOCD remediation action levels in sidewall samples EX-1, EX-2, EX-6, EX-8, EX-9, and EX-10 and floor sample FS-3. Laboratory analytical results are depicted on Figure 3 and summarized in Table 1. The laboratory analytical reports are included as Attachment 2.

CONCLUSIONS

Laboratory analytical results for all final confirmation soil samples collected from the sidewalls and the bottom of the excavation indicated 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 caliche well pad material and recontour the Site. 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, M.S., P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Crystal Weaver, NMOCD
Ryan Mann, SLO

Attachments:

Figure 1	Site Location Map
Figure 2	Surface Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Initial/Final NMOCD Form C-141
Attachment 2	Laboratory Analytical Reports

FIGURES

Advancing Opportunity

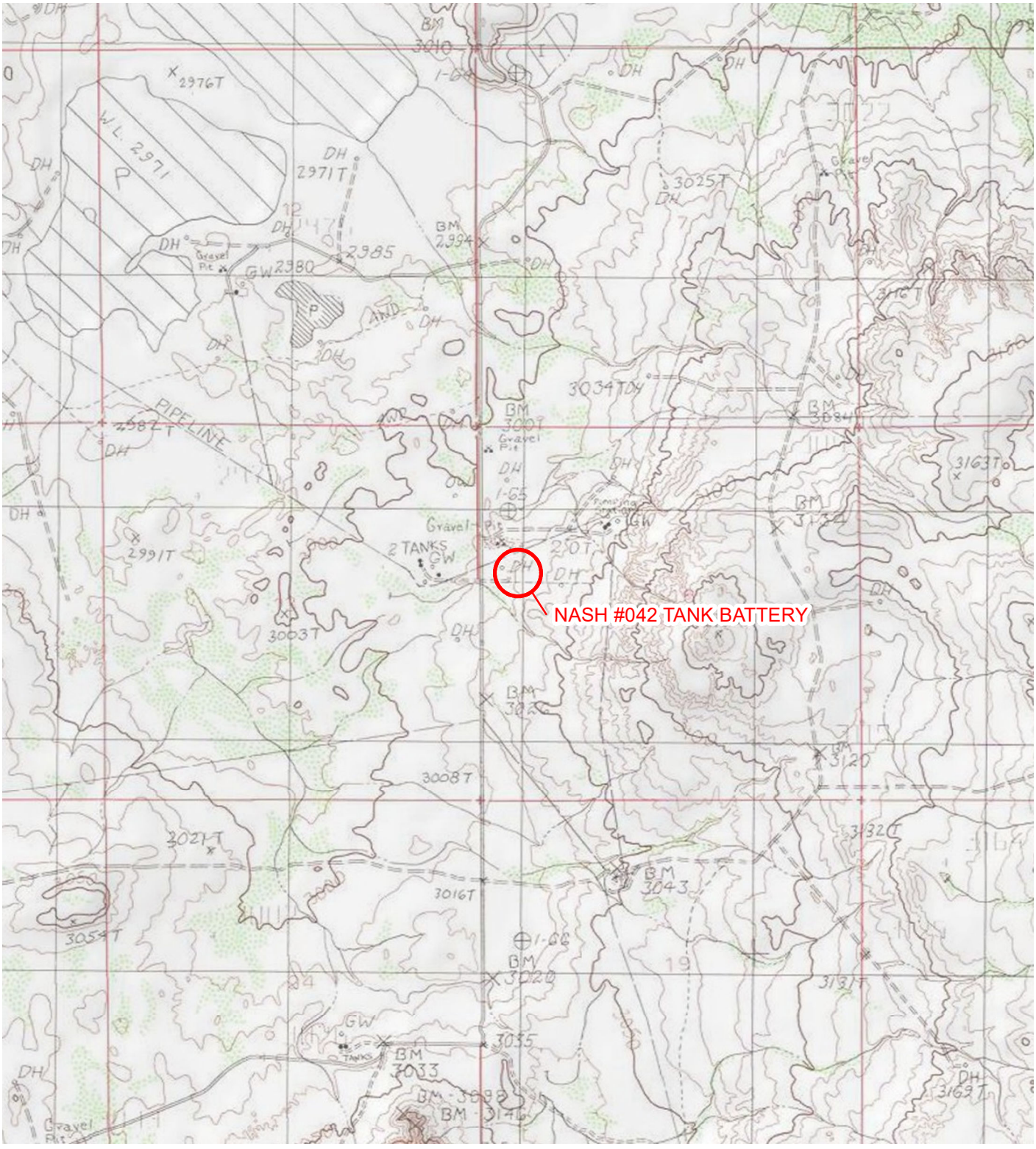

IMAGE COURTESY OF ESRI/USGS

LEGEND

SITE LOCATION

0 2,000 4,000

Feet

N

NEW MEXICO

NOTE: REMEDIATION PERMIT NUMBER 2RP-4527

FIGURE 1
SITE LOCATION MAP
NASH #042 TANK BATTERY
UNIT E 18 T23S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012917051_NASH DRAW 42\012917051_FIG01_SL_4527.mxd

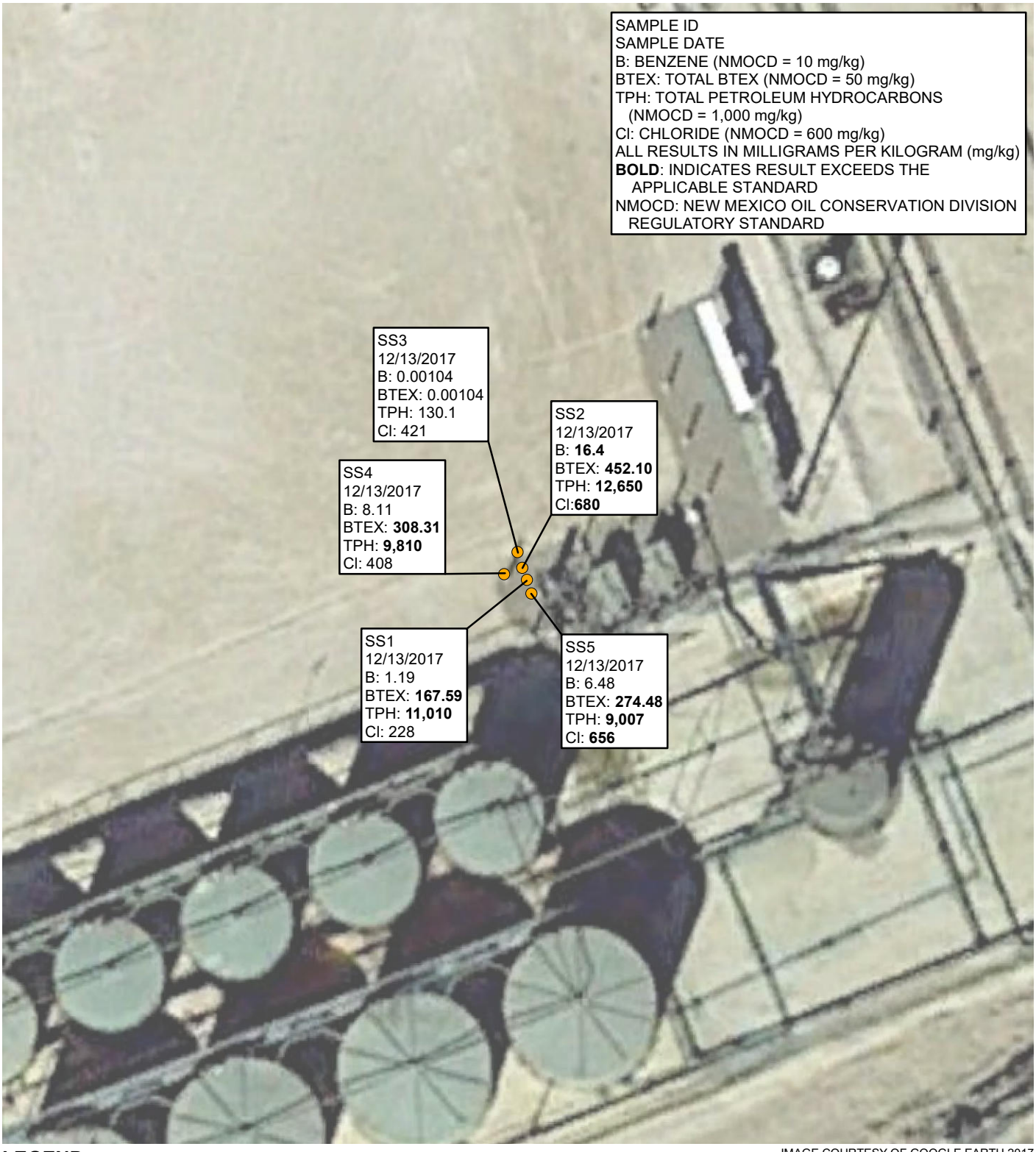

IMAGE COURTESY OF GOOGLE EARTH 2017

LEGEND

- SOIL SAMPLE

0 20 40

Feet

N

FIGURE 2
SURFACE SOIL SAMPLE LOCATIONS
NASH #042 TANK BATTERY
UNIT E 18 T23S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

NOTE: REMEDIATION PERMIT NUMBER 2RP-4527

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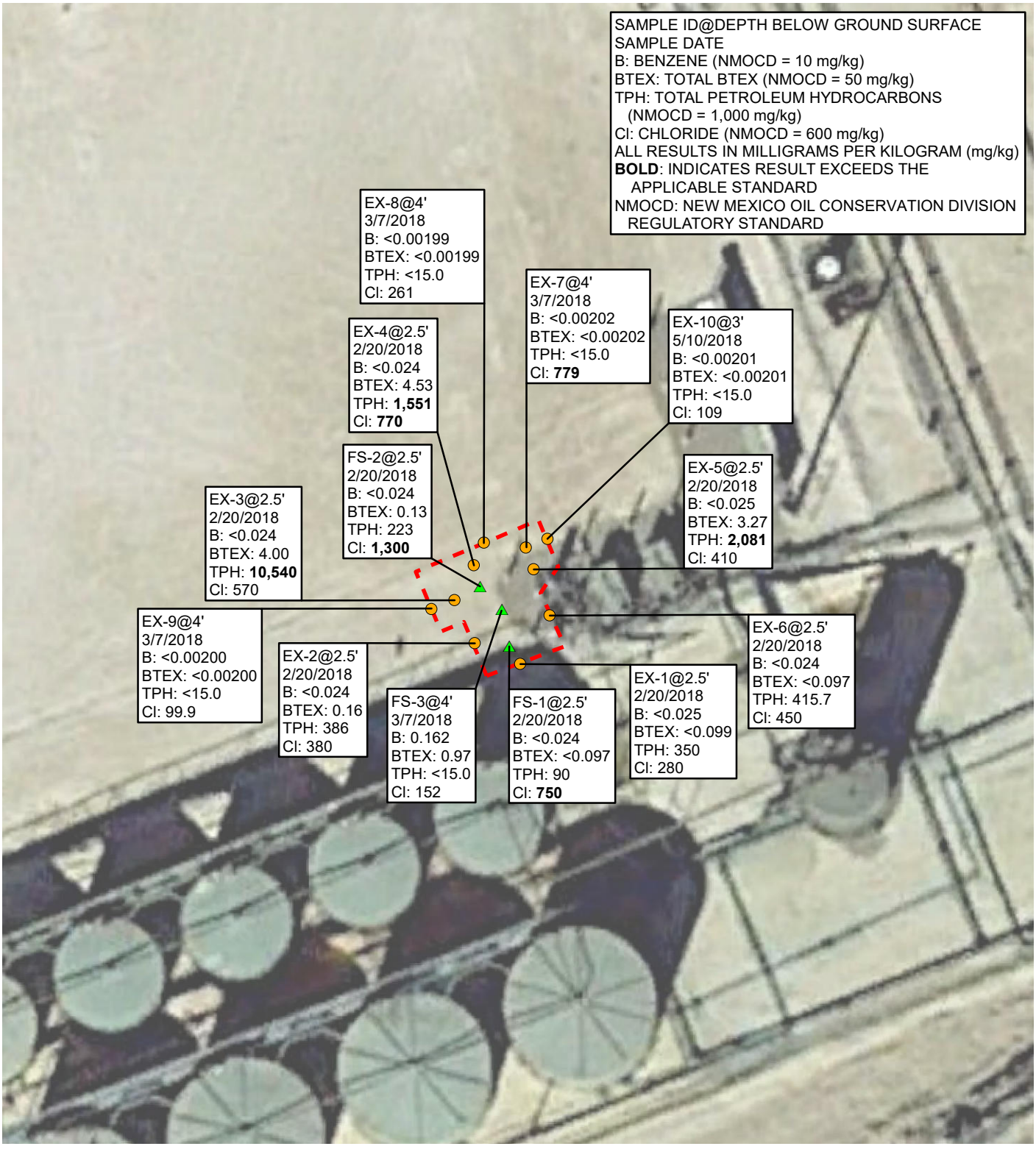


LEGEND

- EXCAVATION SOIL SAMPLE
- EXCAVATION FLOOR SAMPLE
- EXCAVATION EXTENT

IMAGE COURTESY OF GOOGLE EARTH 2017

0 20 40
Feet

N

NOTE: REMEDIATION PERMIT NUMBER 2RP-4527

FIGURE 3
EXCAVATION SOIL SAMPLE LOCATIONS
NASH #042 TANK BATTERY
UNIT E 18 T23S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012917051_NASH DRAW 42\012917051_FIG03_SITE_EX_2018_4527.mxd

TABLE

TABLE 1
SOIL ANALYTICAL RESULTS

NASH #042 TANK BATTERY
REMEDIATION PERMIT NUMBER 2RP-4527
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-C40 Motor Oil Range Organics (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
Surface Soil Samples												
SS1	0.5	12/13/2017	1.19	30.7	25.7	110	**167.59**	2,100	7,330	1,580	**11,010**	228
SS2	0.5	12/13/2017	**16.4**	148	54.7	233	**452.10**	4,460	6,780	1,410	**12,650**	**680**
SS3	0.5	12/13/2017	0.00104	<0.00500	<0.000500	<0.00150	0.00104	<0.100	83.8	46.3	130.1	421
SS4	0.5	12/13/2017	8.11	89.8	42.4	168	**308.31**	3,380	5,390	1,040	**9,810**	408
SS5	0.5	12/13/2017	6.48	77.0	38.0	153	**274.48**	3,210	4,890	907	**9,007**	**656**
Excavation Soil Samples												
EX-1	2.5	2/20/2018	<0.025	<0.049	<0.049	<0.099	<0.099	<4.9	160	190	350	280
EX-2	2.5	2/20/2018	<0.024	<0.048	<0.048	0.16	0.16	5.6	200	180	385.6	380
EX-3	2.5	2/20/2018	<0.024	0.58	0.50	2.9	3.98	70	970	500	**1,540**	570
EX-4	2.5	2/20/2018	<0.024	0.66	0.57	3.3	4.53	71	970	510	**1,551**	**770**
EX-5	2.5	2/20/2018	<0.025	<0.049	0.47	2.8	3.27	71	1,400	610	**2,081**	410
EX-6	2.5	2/20/2018	<0.024	<0.049	<0.049	<0.097	<0.097	5.7	210	200	415.7	450
FS-1	2.5	2/20/2018	<0.024	<0.047	<0.047	<0.094	<0.094	<4.7	34	56	90	**750**
FS-2	2.5	2/20/2018	<0.024	<0.048	<0.048	0.13	0.13	5	120	98	223	**1,300**
EX-7	4	3/7/2018	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	<15.0	<15.0	<15.0	**779**
EX-8	4	3/7/2018	<0.00199	<0.00199	<0.00199	<0.00199	<0.00199	<15.0	<15.0	<15.0	<15.0	261
EX-9	4	3/7/2018	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	<15.0	<15.0	<15.0	99.9
FS-3	4	3/7/2018	0.162	0.158	0.165	0.483	0.968	<15.0	<15.0	<15.0	<15.0	152
EX-10	3	5/10/2018	<0.00201	<0.00201	<0.00201	<0.00201	<0.00201	<15.0	<15.0	<15.0	<15.0	109
NMOCD Remediation Action Level		NE	10	NE	NE	NE	50	NE	NE	NE	1,000	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
Bold indicates result exceeds the applicable regulatory standard
< - indicates result is less than laboratory reporting limit

ATTACHMENT 1

INITIAL/FINAL NMOCD FORM C-141

Advancing Opportunity

NM OIL CONSERVATION
ARTESIA DISTRICT

DEC 18 2017

RECEIVED

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised April 3, 2017

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

Release Notification and Corrective Action

nAB1736039110

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company XTO Energy 5380	Contact Kyle Littrell
Address522 W. Mermod, Suite 704 Carlsbad, N.M. 88220	Telephone No. 432-221-7331
Facility Name: Nash 042 Tank Battery (API for Nash Unit #042)	Facility Type Exploration and Production

Surface Owner State of NM	Mineral Owner State of NM	API No. 30-015-37194

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
E	18	23S	30E	2100	north	600	west	Eddy

Latitude 32.306463° **Longitude** -103.927673° NAD83

NATURE OF RELEASE

Type of Release Crude Oil	Volume of Release 350 bbls and 4 gallons	Volume Recovered 350 bbls
Source of Release Gun barrel tank	Date and Hour of Occurrence 12/4/2017 time unknown	Date and Hour of Discovery 12/4/2017 10:30 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 12/5/2017 9:48 am	
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.*
The dump line from the gun barrel became plugged and caused the tank to overfill and flow into the lined containment.

Describe Area Affected and Cleanup Action Taken.*
The gun barrel overflowed the area within the tank battery lined containment and sent approximately 4 gallons of oil down the vent line into the VRU skid causing it to overflow to the ground. Free standing fluids were recovered. XTO mapped the extent of the release visually then excavated impacted material around VRU skid. The containment and equipment were power washed. Impacted gravel will be disposed at Lea Land. Soil samples were collected to confirm compliance with NMOCD site specific standards. XTO will provide a closure report documenting soil removal and disposal, confirmation soil sampling results, and any other site remediation activities to the NMOCD upon receipt of laboratory analytical results.

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: Environmental Coordinator	Approval Date: 12/26/17 Expiration Date: N/A
E-mail Address: Kyle_Littrell@xtoenergy.com	Conditions of Approval: See attached Attached ☒ 2RP-4527
Date: Revised 12/20/2017 Phone: 432-221-7331	

* Attach Additional Sheets If Necessary

12/22/17 AB

Operator/Responsible Party,

The OCD has received the form C-141 you provided on **12/18/17** regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 2RP-4527 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 II office in Artesia on or before 1/18/18. 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; C_6 thru C_{36}), 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; C_6 thru C_{36}), 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

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

Form C-141
Revised April 3, 2017

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, NM 88220	Telephone No: 432-221-7331
Facility Name: Nash #042 Tank Battery (API for Nash Unit #42)	Facility Type: Exploration and Production

Surface Owner State of New Mexico	Mineral Owner: State of New Mexico	API No. 30-015-37194

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
E	18	23S	30E	2100	North	600	West	Eddy

Latitude 32.306463 **Longitude** -103.927673 NAD83

NATURE OF RELEASE

Type of Release Crude oil	Volume of Release 350 barrels of crude oil in containment and 4 gallons outside of containment	Volume Recovered 350 bbls
Source of Release: Gun barrel tank	Date and Hour of Occurrence 12/4/2017 time unknown	Date and Hour of Discovery 12/4/17 10:30 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: 12/5/2017 9:48 am	
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.* The dump line from the gun barrel became plugged and caused the tank to overfill and flow into the lined containment.

Describe Area Affected and Cleanup Action Taken.* The gun barrel overflowed the area within the tank battery lined containment and sent approximately 4 gallons of oil down the vent line into the VRU skid causing it to overflow to the ground. Free standing fluids were recovered. XTO mapped the extent of the release visually then excavated impacted material around VRU skid. The containment and equipment were power washed. Impacted gravel was disposed at Halfway, in Hobbs, New Mexico. The containment liner was inspected for integrity by the Maintenance Forman.
Impacted soil was excavated around the VRU skid. LT Environmental, Inc., collected excavation confirmation soil samples from the final lateral and vertical extents of the excavation on December 13, 2017, February 20,2018, March 7, 2018, and May 10, 2018. Laboratory analytical results from seven final confirmation samples indicate concentrations of BTEX, TPH, and chloride are below the NMOCD site-specific remediation action levels. XTO has removed the impacted soil and requests no further action at this Site.

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: 6/8/18 Phone: 432-221-7331		

ATTACHMENT 2

LABORATORY ANALYTICAL REPORTS

Advancing Opportunity

ANALYTICAL REPORT

December 28, 2017

XTO Energy- Delaware Division

Sample Delivery Group:	L958010
Samples Received:	12/15/2017
Project Number:	
Description:	Nash 42

Report To:

Kyle Littrell
6401 N Holiday Hill Rd
Suite 200
Midland, TX 79707

Entire Report Reviewed By:

Nancy McLain
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

PERBC-121317-1210 L958010-01 Solid

Collected by: Bradon Cohorn | Collected date/time: 12/13/17 12:10 | Received date/time: 12/15/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1055678	1	12/20/17 12:22	12/20/17 12:31	JD
Wet Chemistry by Method 300.0	WG1054434	1	12/18/17 15:11	12/18/17 19:26	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1055011	500	12/16/17 15:38	12/18/17 22:43	ACE
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1056936	100	12/23/17 14:00	12/26/17 16:43	ACM

PERBC-121317-1213 L958010-02 Solid

Collected by: Bradon Cohorn | Collected date/time: 12/13/17 12:13 | Received date/time: 12/15/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1055678	1	12/20/17 12:22	12/20/17 12:31	JD
Wet Chemistry by Method 300.0	WG1054434	1	12/18/17 15:11	12/18/17 19:34	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1055011	500	12/16/17 15:38	12/18/17 23:06	ACE
Volatile Organic Compounds (GC) by Method 8021	WG1055011	2000	12/16/17 15:38	12/21/17 23:12	ACG
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1056936	200	12/23/17 14:00	12/26/17 16:57	ACM

PERBC-121317-1220 L958010-03 Solid

Collected by: Bradon Cohorn | Collected date/time: 12/13/17 12:20 | Received date/time: 12/15/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1055678	1	12/20/17 12:22	12/20/17 12:31	JD
Wet Chemistry by Method 300.0	WG1054434	1	12/18/17 15:11	12/18/17 19:43	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1055011	1	12/16/17 15:38	12/18/17 23:29	ACE
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1056936	5	12/23/17 14:00	12/26/17 16:29	ACM

PERBC-121317-1222 L958010-04 Solid

Collected by: Bradon Cohorn | Collected date/time: 12/13/17 12:22 | Received date/time: 12/15/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1055690	1	12/20/17 15:05	12/20/17 15:17	JD
Wet Chemistry by Method 300.0	WG1054434	1	12/18/17 15:11	12/18/17 20:09	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1055011	500	12/16/17 15:38	12/18/17 23:53	ACE
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1056936	200	12/23/17 14:00	12/26/17 17:11	ACM

PERBC-121317-1224 L958010-05 Solid

Collected by: Bradon Cohorn | Collected date/time: 12/13/17 12:24 | Received date/time: 12/15/17 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Total Solids by Method 2540 G-2011	WG1055690	1	12/20/17 15:05	12/20/17 15:17	JD
Wet Chemistry by Method 300.0	WG1054434	1	12/18/17 15:11	12/18/17 20:17	DR
Volatile Organic Compounds (GC) by Method 8015/8021	WG1055011	500	12/16/17 15:38	12/19/17 04:07	ACE
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1056936	200	12/23/17 14:00	12/26/17 17:25	ACM

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Nancy F. McLain

Nancy McLain
Technical Service Representative

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.2		1	12/20/2017 12:31	WG1055678

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	228		10.0	1	12/18/2017 19:26	WG1054434

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	1.19		0.250	500	12/18/2017 22:43	WG1055011
Toluene	30.7		2.50	500	12/18/2017 22:43	WG1055011
Ethylbenzene	25.7		0.250	500	12/18/2017 22:43	WG1055011
Total Xylene	110		0.750	500	12/18/2017 22:43	WG1055011
TPH (GC/FID) Low Fraction	2100		50.0	500	12/18/2017 22:43	WG1055011
(S) a,a,a-Trifluorotoluene(FID)	*87.7*		*77.0-120*		*12/18/2017 22:43*	WG1055011
(S) a,a,a-Trifluorotoluene(PID)	*99.6*		*75.0-128*		*12/18/2017 22:43*	WG1055011

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	7330		400	100	12/26/2017 16:43	WG1056936
C28-C40 Oil Range	1580		400	100	12/26/2017 16:43	WG1056936
(S) o-Terphenyl	*0.000*	J7	*18.0-148*		*12/26/2017 16:43*	WG1056936

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	86.7		1	12/20/2017 12:31	WG1055678

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	680		10.0	1	12/18/2017 19:34	WG1054434

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	16.4		0.250	500	12/18/2017 23:06	WG1055011
Toluene	148		10.0	2000	12/21/2017 23:12	WG1055011
Ethylbenzene	54.7		0.250	500	12/18/2017 23:06	WG1055011
Total Xylene	233		0.750	500	12/18/2017 23:06	WG1055011
TPH (GC/FID) Low Fraction	4460		50.0	500	12/18/2017 23:06	WG1055011
(S) a,a,a-Trifluorotoluene(FID)	*87.5*		*77.0-120*		*12/18/2017 23:06*	WG1055011
(S) a,a,a-Trifluorotoluene(FID)	*94.8*		*77.0-120*		*12/21/2017 23:12*	WG1055011
(S) a,a,a-Trifluorotoluene(PID)	*95.2*		*75.0-128*		*12/18/2017 23:06*	WG1055011
(S) a,a,a-Trifluorotoluene(PID)	*98.5*		*75.0-128*		*12/21/2017 23:12*	WG1055011

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	6780		800	200	12/26/2017 16:57	WG1056936
C28-C40 Oil Range	1410		800	200	12/26/2017 16:57	WG1056936
(S) o-Terphenyl	*0.000*	J7	*18.0-148*		*12/26/2017 16:57*	WG1056936

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	89.4		1	12/20/2017 12:31	WG1055678

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	421		10.0	1	12/18/2017 19:43	WG1054434

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	0.00104		0.000500	1	12/18/2017 23:29	WG1055011
Toluene	ND		0.00500	1	12/18/2017 23:29	WG1055011
Ethylbenzene	ND		0.000500	1	12/18/2017 23:29	WG1055011
Total Xylene	ND		0.00150	1	12/18/2017 23:29	WG1055011
TPH (GC/FID) Low Fraction	ND		0.100	1	12/18/2017 23:29	WG1055011
(S) a,a,a-Trifluorotoluene(FID)	*99.0*		*77.0-120*		*12/18/2017 23:29*	WG1055011
(S) a,a,a-Trifluorotoluene(PID)	*98.5*		*75.0-128*		*12/18/2017 23:29*	WG1055011

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	83.8		20.0	5	12/26/2017 16:29	WG1056936
C28-C40 Oil Range	46.3		20.0	5	12/26/2017 16:29	WG1056936
(S) o-Terphenyl	*59.0*		*18.0-148*		*12/26/2017 16:29*	WG1056936

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	88.3		1	12/20/2017 15:17	WG1055690

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	408		10.0	1	12/18/2017 20:09	WG1054434

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	8.11		0.250	500	12/18/2017 23:53	WG1055011
Toluene	89.8		2.50	500	12/18/2017 23:53	WG1055011
Ethylbenzene	42.4		0.250	500	12/18/2017 23:53	WG1055011
Total Xylene	168		0.750	500	12/18/2017 23:53	WG1055011
TPH (GC/FID) Low Fraction	3380		50.0	500	12/18/2017 23:53	WG1055011
(S) a,a,a-Trifluorotoluene(FID)	*87.4*		*77.0-120*		*12/18/2017 23:53*	WG1055011
(S) a,a,a-Trifluorotoluene(PID)	*98.0*		*75.0-128*		*12/18/2017 23:53*	WG1055011

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	5390		800	200	12/26/2017 17:11	WG1056936
C28-C40 Oil Range	1040		800	200	12/26/2017 17:11	WG1056936
(S) o-Terphenyl	*0.000*	J7	*18.0-148*		*12/26/2017 17:11*	WG1056936

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	90.4		1	12/20/2017 15:17	WG1055690

Wet Chemistry by Method 300.0

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Chloride	656		10.0	1	12/18/2017 20:17	WG1054434

Volatile Organic Compounds (GC) by Method 8015/8021

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Benzene	6.48		0.250	500	12/19/2017 04:07	WG1055011
Toluene	77.0		2.50	500	12/19/2017 04:07	WG1055011
Ethylbenzene	38.0		0.250	500	12/19/2017 04:07	WG1055011
Total Xylene	153	J5 J6	0.750	500	12/19/2017 04:07	WG1055011
TPH (GC/FID) Low Fraction	3210		50.0	500	12/19/2017 04:07	WG1055011
(S) a,a,a-Trifluorotoluene(FID)	*87.4*		*77.0-120*		*12/19/2017 04:07*	WG1055011
(S) a,a,a-Trifluorotoluene(PID)	*97.9*		*75.0-128*		*12/19/2017 04:07*	WG1055011

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
C10-C28 Diesel Range	4890		800	200	12/26/2017 17:25	WG1056936
C28-C40 Oil Range	907		800	200	12/26/2017 17:25	WG1056936
(S) o-Terphenyl	*0.000*	J7	*18.0-148*		*12/26/2017 17:25*	WG1056936

Method Blank (MB)

(MB) R3274704-1 12/20/17 12:31

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0			

L958007-07 Original Sample (OS) • Duplicate (DUP)

(OS) L958007-07 12/20/17 12:31 • (DUP) R3274704-3 12/20/17 12:31

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	91.7	93.0	1	1		5

Laboratory Control Sample (LCS)

(LCS) R3274704-2 12/20/17 12:31

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85-115	

Method Blank (MB)

(MB) R3274726-1 12/20/17 15:17

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.001			

L958015-01 Original Sample (OS) • Duplicate (DUP)

(OS) L958015-01 12/20/17 15:17 • (DUP) R3274726-3 12/20/17 15:17

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	87.7	87.9	1	0		5

Laboratory Control Sample (LCS)

(LCS) R3274726-2 12/20/17 15:17

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85-115	

Method Blank (MB)

(MB) R3274000-1 12/18/17 16:57

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Chloride	U		0.795	10.0

L958008-03 Original Sample (OS) • Duplicate (DUP)

(OS) L958008-03 12/18/17 18:35 • (DUP) R3274000-4 12/18/17 18:43

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	53.0	57.2	1	7.51		20

L958014-05 Original Sample (OS) • Duplicate (DUP)

(OS) L958014-05 12/18/17 21:17 • (DUP) R3274000-7 12/18/17 21:25

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	7510	8630	20	13.9		20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3274000-2 12/18/17 17:06 • (LCSD) R3274000-8 12/18/17 23:55

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloride	200	217	212	108	106	90-110			2.15	20

L958010-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L958010-03 12/18/17 19:43 • (MS) R3274000-5 12/18/17 19:52 • (MSD) R3274000-6 12/18/17 20:00

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	500	421	898	886	95.4	93	1	80-120			1.29	20

Method Blank (MB)

(MB) R3275037-5 12/18/17 11:59

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Benzene	U		0.000120	0.000500
Toluene	U		0.000150	0.00500
Ethylbenzene	U		0.000110	0.000500
Total Xylene	U		0.000460	0.00150
TPH (GC/FID) Low Fraction	U		0.0217	0.100
(S) a,a,a-Trifluorotoluene(FID)	*102*			*77.0-120*
(S) a,a,a-Trifluorotoluene(PID)	*102*			*75.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3275037-1 12/18/17 09:29 • (LCSD) R3275037-2 12/18/17 10:04

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	0.0511	0.0513	102	103	71.0-121			0.386	20
Toluene	0.0500	0.0522	0.0522	104	104	72.0-120			0.0533	20
Ethylbenzene	0.0500	0.0541	0.0542	108	108	76.0-121			0.0987	20
Total Xylene	0.150	0.159	0.158	106	105	75.0-124			0.819	20
(S) a,a,a-Trifluorotoluene(FID)				*101*	*101*	*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)				*100*	*101*	*75.0-128*				

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3275037-3 12/18/17 10:27 • (LCSD) R3275037-4 12/18/17 10:50

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	4.69	4.59	85.3	83.4	70.0-136			2.23	20
(S) a,a,a-Trifluorotoluene(FID)				*101*	*101*	*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)				*109*	*109*	*75.0-128*				

L958010-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L958010-05 12/19/17 04:07 • (MS) R3275037-6 12/19/17 04:30 • (MSD) R3275037-7 12/19/17 04:53

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Benzene	0.0500	6.48	22.0	22.3	62.0	63.3	500	10.0-146			1.47	29
Toluene	0.0500	77.0	90.6	92.4	54.6	61.9	500	10.0-143			1.98	30
Ethylbenzene	0.0500	38.0	56.6	58.1	74.5	80.3	500	10.0-147			2.49	31
Total Xylene	0.150	153	223	228	93.3	99.9	500	10.0-149	J5 J6	J5	2.17	30
(S) a,a,a-Trifluorotoluene(FID)					*87.3*	*87.3*		*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)					*98.3*	*98.7*		*75.0-128*				

L958010-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L958010-05 12/19/17 04:07 • (MS) R3275037-8 12/19/17 05:16 • (MSD) R3275037-9 12/19/17 05:39

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	5.50	3210	4440	4510	44.8	47.2	500	10.0-147			1.46	30
(S) a,a,a-Trifluorotoluene(FID)					*90.6*	*89.7*		*77.0-120*				
(S) a,a,a-Trifluorotoluene(PID)					*100*	*100*		*75.0-128*				

Method Blank (MB)

(MB) R3275776-1 12/26/17 12:58

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C10-C28 Diesel Range	U		1.61	4.00
C28-C40 Oil Range	U		0.274	4.00
(S) o-Terphenyl	*63.0*			*18.0-148*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3275776-2 12/26/17 13:13 • (LCSD) R3275776-3 12/26/17 13:27

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C10-C28 Diesel Range	60.0	38.3	35.8	63.9	59.7	50.0-150			6.85	20
(S) o-Terphenyl				*60.0*	*60.6*	*18.0-148*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

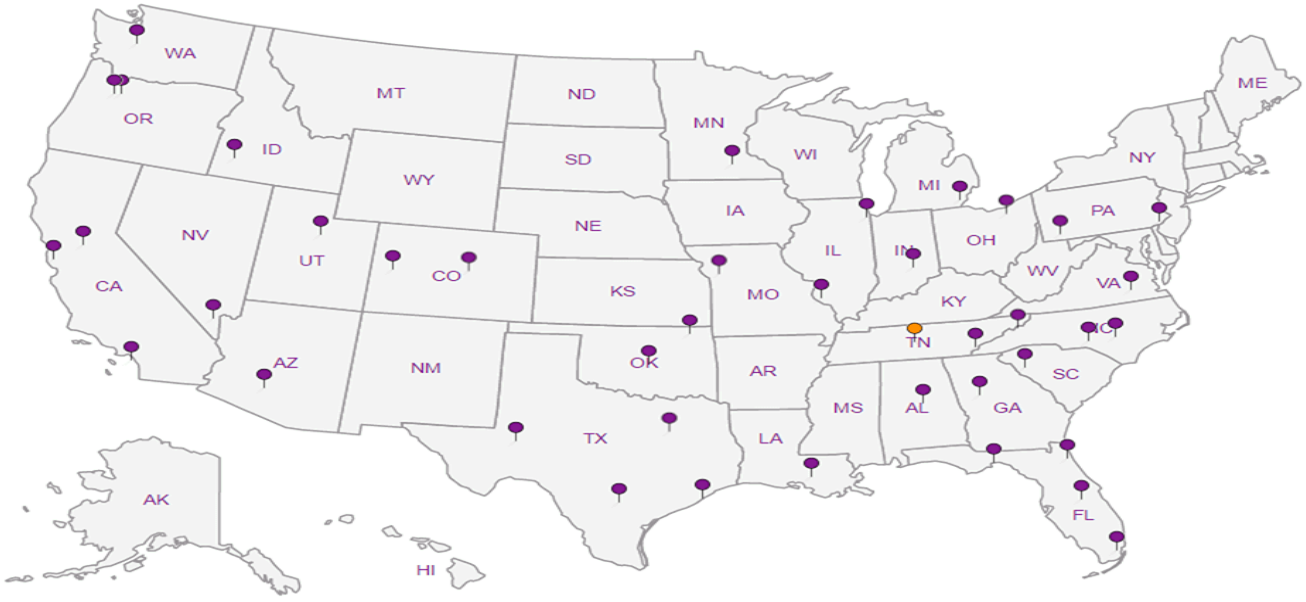
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



XTO ENERGY
Western Division

Quote Number		Page 1 of 1
XTO Contact: Kyle Littrell		XTO Contact Phone #: 1-970-317-1867
Email Results to: Kyle_Littrell@xtoenergy.com; Abaker@LTenv.com		
Well Site/Location: Nash 42	API Number	Test Reason: Confirmation Soil Samples
Collected By: Bradon Cohorn	Samples on Ice (Y / N)	Turnaround: ✓ Standard; ___ Next Day; ___ Two Day; ___ Three Day; ___ Std. 5 Bus. Days (by contract)
Company: LT Environmental	QA/QC Requested	
Signature	Gray Areas for Lab Use Only!	Date Needed: ___

Analysis: BTEX EPA Method 8021; TPH EPA Method 8015; CHLORIDE EPA Method 300.1

Lab Information: B107

Office Abbreviations: Farmington = FAR; Durango = DUR; Bakken = BAK; Raton = RAT; Piceance = PC; Roosevelt = RSV; La Barge = LB; Orangeville = OV; Permian = PER

L958010

Sample ID	Sample Name	Media	Date	Time	Preservative	No. of Conts.	Sample Number
PERBC-121317-1210	SS 1	S	12/13/17	12:10	Ice	1	-01
PERBC-121317-1213	SS 2	S	12/13/17	12:13			-02
PERBC-121317-1220	SS 3	S	12/13/17	12:20			-03
PERBC-121317-1222	SS 4	S	12/13/17	12:22			-04
PERBC-121317-1224	SS 5	S	12/13/17	12:24			-05

NFE ARV 12/14/17

Media : Filter = F Soil = S Wastewater = WW Groundwater = GW Drinking Waster = DW Sludge = SG Surface Water = SW Air = A Drill Mud = DM Other = OT

Relinquished By: (Signature)	Date: 12/14	Time: 9:30	Received By: (Signature)	Number of Bottles	Sample Condition: OK
Relinquished By: (Signature)	Date: 12/14/17	Time: 14:30	Received By: (Signature)	Temperature: 7.1 °C	Other Information
Relinquished By: (Signature)	Date:	Time:	Received for Lab by: (Signature)	Date: 12-15-17 Time: 0745	

Comments: toll

* Sample ID will be the office and sampler-date-military time-sampler initials FARJM-MMDDYY-1200

count = 5.402

ESC LAB SCIENCES
Cooler Receipt Form

Client: XTOXNM	SDG#	L958000	
Cooler Received/Opened On: 12/15/17	Temperature:	2°C	
Received by : Troy Dunlap			
Signature:			

Receipt Check List	NP	Yes	No
COC Seal Present / Intact?	✓		
COC Signed / Accurate?		✓	
Bottles arrive intact?		✓	
Correct bottles used?		✓	
Sufficient volume sent?		✓	
If Applicable		✓	
VOA Zero headspace?			
Preservation Correct / Checked?			

PD

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

February 28, 2018

Adrian Baker
XTO Midland
6401 Holiday Hill Rd #200
Midland, TX 79707
TEL: (432) 894-5641
FAX (505) 333-3280

RE: Nash 42 OrderNo.: 1802C32

Dear Adrian Baker:

Hall Environmental Analysis Laboratory received 8 sample(s) on 2/22/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: XTO Midland
Client Sample ID: EX-1
Project: Nash 42
Collection Date: 2/20/2018 3:05:00 PM
Lab ID: 1802C32-001
Matrix: SOIL
Received Date: 2/22/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	280	30		mg/Kg	20	2/26/2018 4:31:41 PM	36723
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	160	9.6		mg/Kg	1	2/27/2018 9:33:32 PM	36688
Motor Oil Range Organics (MRO)	190	48		mg/Kg	1	2/27/2018 9:33:32 PM	36688
Surr: DNOP	117	70-130		%Rec	1	2/27/2018 9:33:32 PM	36688
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.9		mg/Kg	1	2/23/2018 9:48:31 AM	36675
Surr: BFB	94.9	15-316		%Rec	1	2/23/2018 9:48:31 AM	36675
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	2/23/2018 9:48:31 AM	36675
Toluene	ND	0.049		mg/Kg	1	2/23/2018 9:48:31 AM	36675
Ethylbenzene	ND	0.049		mg/Kg	1	2/23/2018 9:48:31 AM	36675
Xylenes, Total	ND	0.099		mg/Kg	1	2/23/2018 9:48:31 AM	36675
Surr: 4-Bromofluorobenzene	92.5	80-120		%Rec	1	2/23/2018 9:48:31 AM	36675

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 Quanitative 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.

CLIENT: XTO Midland
Client Sample ID: EX-2
Project: Nash 42
Collection Date: 2/20/2018 3:07:00 PM
Lab ID: 1802C32-002
Matrix: SOIL
Received Date: 2/22/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	380	30		mg/Kg	20	2/26/2018 4:44:06 PM	36723
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	200	9.2		mg/Kg	1	2/27/2018 11:23:19 PM	36688
Motor Oil Range Organics (MRO)	180	46		mg/Kg	1	2/27/2018 11:23:19 PM	36688
Surr: DNOP	116	70-130		%Rec	1	2/27/2018 11:23:19 PM	36688
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	5.6	4.8		mg/Kg	1	2/23/2018 10:58:23 AM	36675
Surr: BFB	114	15-316		%Rec	1	2/23/2018 10:58:23 AM	36675
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	2/23/2018 10:58:23 AM	36675
Toluene	ND	0.048		mg/Kg	1	2/23/2018 10:58:23 AM	36675
Ethylbenzene	ND	0.048		mg/Kg	1	2/23/2018 10:58:23 AM	36675
Xylenes, Total	0.16	0.095		mg/Kg	1	2/23/2018 10:58:23 AM	36675
Surr: 4-Bromofluorobenzene	90.3	80-120		%Rec	1	2/23/2018 10:58:23 AM	36675

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 Quanitative 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.

CLIENT: XTO Midland
Client Sample ID: EX-3
Project: Nash 42
Collection Date: 2/20/2018 3:10:00 PM
Lab ID: 1802C32-003
Matrix: SOIL
Received Date: 2/22/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	570	30		mg/Kg	20	2/26/2018 4:56:30 PM	36723
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	970	93		mg/Kg	10	2/26/2018 4:51:17 PM	36688
Motor Oil Range Organics (MRO)	500	470		mg/Kg	10	2/26/2018 4:51:17 PM	36688
Surr: DNOP	0	70-130	S	%Rec	10	2/26/2018 4:51:17 PM	36688
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	70	4.8		mg/Kg	1	2/23/2018 12:08:40 PM	36675
Surr: BFB	378	15-316	S	%Rec	1	2/23/2018 12:08:40 PM	36675
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	2/23/2018 12:08:40 PM	36675
Toluene	0.58	0.048		mg/Kg	1	2/23/2018 12:08:40 PM	36675
Ethylbenzene	0.50	0.048		mg/Kg	1	2/23/2018 12:08:40 PM	36675
Xylenes, Total	2.9	0.097		mg/Kg	1	2/23/2018 12:08:40 PM	36675
Surr: 4-Bromofluorobenzene	113	80-120		%Rec	1	2/23/2018 12:08:40 PM	36675

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 Quanitative 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.

CLIENT: XTO Midland
Client Sample ID: EX-4
Project: Nash 42
Collection Date: 2/20/2018 3:12:00 PM
Lab ID: 1802C32-004
Matrix: SOIL
Received Date: 2/22/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	770	30		mg/Kg	20	2/27/2018 2:03:11 AM	36733
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	970	98		mg/Kg	10	2/26/2018 5:15:31 PM	36688
Motor Oil Range Organics (MRO)	510	490		mg/Kg	10	2/26/2018 5:15:31 PM	36688
Surr: DNOP	0	70-130	S	%Rec	10	2/26/2018 5:15:31 PM	36688
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	71	4.8		mg/Kg	1	2/23/2018 12:55:49 PM	36675
Surr: BFB	337	15-316	S	%Rec	1	2/23/2018 12:55:49 PM	36675
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	2/23/2018 12:55:49 PM	36675
Toluene	0.66	0.048		mg/Kg	1	2/23/2018 12:55:49 PM	36675
Ethylbenzene	0.57	0.048		mg/Kg	1	2/23/2018 12:55:49 PM	36675
Xylenes, Total	3.3	0.096		mg/Kg	1	2/23/2018 12:55:49 PM	36675
Surr: 4-Bromofluorobenzene	113	80-120		%Rec	1	2/23/2018 12:55:49 PM	36675

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 Quanitative 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.

CLIENT: XTO Midland
Client Sample ID: EX-5
Project: Nash 42
Collection Date: 2/20/2018 3:14:00 PM
Lab ID: 1802C32-005
Matrix: SOIL
Received Date: 2/22/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	410	30		mg/Kg	20	2/27/2018 2:15:36 AM	36733
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	1400	96		mg/Kg	10	2/26/2018 5:39:47 PM	36688
Motor Oil Range Organics (MRO)	610	480		mg/Kg	10	2/26/2018 5:39:47 PM	36688
Surr: DNOP	0	70-130	S	%Rec	10	2/26/2018 5:39:47 PM	36688
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	71	4.9		mg/Kg	1	2/23/2018 1:42:56 PM	36675
Surr: BFB	383	15-316	S	%Rec	1	2/23/2018 1:42:56 PM	36675
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.025		mg/Kg	1	2/23/2018 1:42:56 PM	36675
Toluene	ND	0.049		mg/Kg	1	2/23/2018 1:42:56 PM	36675
Ethylbenzene	0.47	0.049		mg/Kg	1	2/23/2018 1:42:56 PM	36675
Xylenes, Total	2.8	0.099		mg/Kg	1	2/23/2018 1:42:56 PM	36675
Surr: 4-Bromofluorobenzene	124	80-120	S	%Rec	1	2/23/2018 1:42:56 PM	36675

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 Quanitative 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.

CLIENT: XTO Midland
Client Sample ID: EX-6
Project: Nash 42
Collection Date: 2/20/2018 3:16:00 PM
Lab ID: 1802C32-006
Matrix: SOIL
Received Date: 2/22/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	450	30		mg/Kg	20	2/27/2018 2:28:01 AM	36733
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	210	9.5		mg/Kg	1	2/28/2018 12:07:10 AM	36688
Motor Oil Range Organics (MRO)	200	48		mg/Kg	1	2/28/2018 12:07:10 AM	36688
Surr: DNOP	110	70-130		%Rec	1	2/28/2018 12:07:10 AM	36688
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	5.7	4.9		mg/Kg	1	2/23/2018 2:30:16 PM	36675
Surr: BFB	118	15-316		%Rec	1	2/23/2018 2:30:16 PM	36675
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	2/23/2018 2:30:16 PM	36675
Toluene	ND	0.049		mg/Kg	1	2/23/2018 2:30:16 PM	36675
Ethylbenzene	ND	0.049		mg/Kg	1	2/23/2018 2:30:16 PM	36675
Xylenes, Total	ND	0.097		mg/Kg	1	2/23/2018 2:30:16 PM	36675
Surr: 4-Bromofluorobenzene	92.7	80-120		%Rec	1	2/23/2018 2:30:16 PM	36675

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 Quanitative 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.

CLIENT: XTO Midland
Client Sample ID: FS-1
Project: Nash 42
Collection Date: 2/20/2018 3:18:00 PM
Lab ID: 1802C32-007
Matrix: SOIL
Received Date: 2/22/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	750	30		mg/Kg	20	2/27/2018 2:40:26 AM	36733
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	34	10		mg/Kg	1	2/26/2018 6:28:17 PM	36688
Motor Oil Range Organics (MRO)	56	50		mg/Kg	1	2/26/2018 6:28:17 PM	36688
Surr: DNOP	95.0	70-130		%Rec	1	2/26/2018 6:28:17 PM	36688
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	ND	4.7		mg/Kg	1	2/23/2018 2:53:54 PM	36675
Surr: BFB	87.6	15-316		%Rec	1	2/23/2018 2:53:54 PM	36675
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	2/23/2018 2:53:54 PM	36675
Toluene	ND	0.047		mg/Kg	1	2/23/2018 2:53:54 PM	36675
Ethylbenzene	ND	0.047		mg/Kg	1	2/23/2018 2:53:54 PM	36675
Xylenes, Total	ND	0.094		mg/Kg	1	2/23/2018 2:53:54 PM	36675
Surr: 4-Bromofluorobenzene	89.1	80-120		%Rec	1	2/23/2018 2:53:54 PM	36675

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 Quanitative 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.

CLIENT: XTO Midland
Client Sample ID: FS-2
Project: Nash 42
Collection Date: 2/20/2018 3:20:00 PM
Lab ID: 1802C32-008
Matrix: SOIL
Received Date: 2/22/2018 10:00:00 AM

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **MRA**	
Chloride	1300	75		mg/Kg	50	2/28/2018 3:44:16 AM	36733
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **TOM**	
Diesel Range Organics (DRO)	120	10		mg/Kg	1	2/26/2018 6:52:27 PM	36688
Motor Oil Range Organics (MRO)	98	51		mg/Kg	1	2/26/2018 6:52:27 PM	36688
Surr: DNOP	94.9	70-130		%Rec	1	2/26/2018 6:52:27 PM	36688
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	5.2	4.8		mg/Kg	1	2/23/2018 3:17:30 PM	36675
Surr: BFB	109	15-316		%Rec	1	2/23/2018 3:17:30 PM	36675
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	ND	0.024		mg/Kg	1	2/23/2018 3:17:30 PM	36675
Toluene	ND	0.048		mg/Kg	1	2/23/2018 3:17:30 PM	36675
Ethylbenzene	ND	0.048		mg/Kg	1	2/23/2018 3:17:30 PM	36675
Xylenes, Total	0.13	0.096		mg/Kg	1	2/23/2018 3:17:30 PM	36675
Surr: 4-Bromofluorobenzene	93.2	80-120		%Rec	1	2/23/2018 3:17:30 PM	36675

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 Quanitative 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1802C32**

28-Feb-18

Client: XTO Midland

Project: Nash 42

Sample ID	**MB-36733**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**36733**	RunNo:	**49405**					
Prep Date:	**2/26/2018**	Analysis Date:	**2/26/2018**	SeqNo:	**1595239**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-36733**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**36733**	RunNo:	**49405**					
Prep Date:	**2/26/2018**	Analysis Date:	**2/26/2018**	SeqNo:	**1595240**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.2	90	110			

Sample ID	**MB-36723**	SampType:	**mblk**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBS**	Batch ID:	**36723**	RunNo:	**49384**					
Prep Date:	**2/26/2018**	Analysis Date:	**2/26/2018**	SeqNo:	**1595313**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID	**LCS-36723**	SampType:	**lcs**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSS**	Batch ID:	**36723**	RunNo:	**49384**					
Prep Date:	**2/26/2018**	Analysis Date:	**2/26/2018**	SeqNo:	**1595314**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	91.6	90	110			

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 Quanitative 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1802C32**

28-Feb-18

Client: XTO Midland

Project: Nash 42

Sample ID	**LCS-36688**	SampType: **LCS**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID:	**LCSS**	Batch ID: **36688**			RunNo: **49375**					
Prep Date:	**2/23/2018**	Analysis Date: **2/26/2018**			SeqNo: **1594585**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	45	10	50.00	0	90.2	70	130			
Surr: DNOP	4.3		5.000		85.6	70	130			

Sample ID	**MB-36688**	SampType: **MBLK**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID:	**PBS**	Batch ID: **36688**			RunNo: **49375**					
Prep Date:	**2/23/2018**	Analysis Date: **2/26/2018**			SeqNo: **1594586**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	9.6		10.00		95.8	70	130			

Sample ID	**1802C32-001AMS**	SampType: **MS**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID:	**EX-1**	Batch ID: **36688**			RunNo: **49400**					
Prep Date:	**2/23/2018**	Analysis Date: **2/27/2018**			SeqNo: **1596098**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	250	9.8	49.12	156.7	182	55.8	125			S
Surr: DNOP	5.5		4.912		111	70	130			

Sample ID	**1802C32-001AMSD**	SampType: **MSD**			TestCode: **EPA Method 8015M/D: Diesel Range Organics**					
Client ID:	**EX-1**	Batch ID: **36688**			RunNo: **49400**					
Prep Date:	**2/23/2018**	Analysis Date: **2/27/2018**			SeqNo: **1596099**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	310	9.3	46.30	156.7	332	55.8	125	23.2	20	RS
Surr: DNOP	5.4		4.630		116	70	130	0	0	

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 Quanitative 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1802C32**

28-Feb-18

Client: XTO Midland

Project: Nash 42

Sample ID	**MB-36675**	SampType: **MBLK**			TestCode: **EPA Method 8015D: Gasoline Range**					
Client ID:	**PBS**	Batch ID: **36675**			RunNo: **49365**					
Prep Date:	**2/22/2018**	Analysis Date: **2/23/2018**			SeqNo: **1593569**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	920		1000		92.2	15	316			

Sample ID	**LCS-36675**	SampType: **LCS**			TestCode: **EPA Method 8015D: Gasoline Range**					
Client ID:	**LCSS**	Batch ID: **36675**			RunNo: **49365**					
Prep Date:	**2/22/2018**	Analysis Date: **2/23/2018**			SeqNo: **1593571**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27	5.0	25.00	0	109	75.9	131			
Surr: BFB	1000		1000		103	15	316			

Sample ID	**1802C32-002AMS**	SampType: **MS**			TestCode: **EPA Method 8015D: Gasoline Range**					
Client ID:	**EX-2**	Batch ID: **36675**			RunNo: **49365**					
Prep Date:	**2/22/2018**	Analysis Date: **2/23/2018**			SeqNo: **1593575**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	36	4.9	24.41	5.599	125	77.8	128			
Surr: BFB	1200		976.6		126	15	316			

Sample ID	**1802C32-002AMSD**	SampType: **MSD**			TestCode: **EPA Method 8015D: Gasoline Range**					
Client ID:	**EX-2**	Batch ID: **36675**			RunNo: **49365**					
Prep Date:	**2/22/2018**	Analysis Date: **2/23/2018**			SeqNo: **1593577**		Units: **mg/Kg**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	40	4.7	23.26	5.599	149	77.8	128	10.9	20	S
Surr: BFB	1400		930.2		149	15	316	0	0	

Qualifiers:

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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 Quanitative 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

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1802C32**

28-Feb-18

Client: XTO Midland

Project: Nash 42

Sample ID	**MB-36675**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBS**	Batch ID:	**36675**	RunNo:	**49365**					
Prep Date:	**2/22/2018**	Analysis Date:	**2/23/2018**	SeqNo:	**1593604**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.92		1.000		91.6	80	120			

Sample ID	**LCS-36675**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSS**	Batch ID:	**36675**	RunNo:	**49365**					
Prep Date:	**2/22/2018**	Analysis Date:	**2/23/2018**	SeqNo:	**1593606**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.97	0.025	1.000	0	97.2	77.3	128			
Toluene	0.96	0.050	1.000	0	96.0	79.2	125			
Ethylbenzene	0.95	0.050	1.000	0	95.2	80.7	127			
Xylenes, Total	2.9	0.10	3.000	0	97.9	81.6	129			
Surr: 4-Bromofluorobenzene	0.91		1.000		91.2	80	120			

Sample ID	**1802C32-001AMS**	SampType:	**MS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**EX-1**	Batch ID:	**36675**	RunNo:	**49365**					
Prep Date:	**2/22/2018**	Analysis Date:	**2/23/2018**	SeqNo:	**1593610**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	1.0	0.024	0.9506	0	109	80.9	132			
Toluene	1.1	0.048	0.9506	0.009684	110	79.8	136			
Ethylbenzene	1.1	0.048	0.9506	0.01215	110	79.4	140			
Xylenes, Total	3.2	0.095	2.852	0.03034	113	78.5	142			
Surr: 4-Bromofluorobenzene	0.87		0.9506		91.2	80	120			

Sample ID	**1802C32-001AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**EX-1**	Batch ID:	**36675**	RunNo:	**49365**					
Prep Date:	**2/22/2018**	Analysis Date:	**2/23/2018**	SeqNo:	**1593612**	Units:	**mg/Kg**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.98	0.023	0.9302	0	105	80.9	132	6.33	20	
Toluene	0.98	0.047	0.9302	0.009684	104	79.8	136	7.51	20	
Ethylbenzene	0.99	0.047	0.9302	0.01215	105	79.4	140	6.77	20	
Xylenes, Total	3.0	0.093	2.791	0.03034	107	78.5	142	7.06	20	
Surr: 4-Bromofluorobenzene	0.82		0.9302		87.7	80	120	0	0	

Qualifiers:

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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 Quanitative 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

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: XTO Energy | Work Order Number: 1802C32 | RcptNo: 1

Received By: Sophia Campuzano 2/22/2018 10:00:00 AM

Completed By: Dennis Suazo 2/22/2018 10:44:35 AM

Reviewed By: ENM 2/22/18

Labeled By MW 2/22/18

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.8	Good	Not Present			

Chain-of-Custody Record

Client: XTO Energy
Kyle Littrell
Mailing Address:

Phone #:
email or Fax#: Kyle_littrell@xtoenergy.com
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☒ EDD (Type) PDF

Turn-Around Time: 5 day
☒ Standard ☐ Rush
Project Name: Nash #42
Project #:
Project Manager: LTE: Adrian Baker
Sampler: Eric Carroll
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.0-0.2(CF)=0.8

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1802C32	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F^-, Cl^-, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
2/20/18	1505	Soil	Ex-1	1 4oz	Cool	001	X		X					X								
	1507		Ex-2			002	X		X					X								
	1516		Ex-3			003	X		X					X								
	1512		Ex-4			004	X		X					X								
	1514		Ex-5			005	X		X					X								
	1516		Ex-6			006	X		X					X								
	1518		FS-1			007	X		X					X								
	1520		FS-2			008	X		X					X								

Date	Time	Relinquished by:	Received by:	Date	Time
2/21/18	16:30	Eric Carroll		2/21/18	1630
2/21/18	1900		courier	02/22/18	1000

Remarks:
Please cc: aager@ltenv.com
abaker@ltenv.com

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Analytical Report 578896

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Nash #42

17-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)

17-MAR-18

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

Reference: XENCO Report No(s): **578896**
Nash #42
Project Address: 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) 578896. 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. 578896 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

Jessica Kramer
Project Assistant

Sample Cross Reference 578896

LT Environmental, Inc., Arvada, CO

Nash #42

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
EX-6	S	03-07-18 12:40	4 ft	578896-001
EX-7	S	03-07-18 12:50	4 ft	578896-002
EX-8	S	03-07-18 13:00	4 ft	578896-003
FS-3	S	03-07-18 13:10	4 ft	578896-004

Client Name: LT Environmental, Inc.

Project Name: Nash #42

Project ID:
Work Order Number(s): *578896*

Report Date: *17-MAR-18*
Date Received: *03/10/2018*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3043914 BTEX by EPA 8021B

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

Certificate of Analysis Summary 578896

LT Environmental, Inc., Arvada, CO

Project Name: Nash #42

Project Id:
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Sat Mar-10-18 12:21 pm
Report Date: 17-MAR-18
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	578896-001		578896-002		578896-003		578896-004					
	Field Id:	EX-6		EX-7		EX-8		FS-3					
	Depth:	4- ft		4- ft		4- ft		4- ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	Mar-07-18 12:40		Mar-07-18 12:50		Mar-07-18 13:00		Mar-07-18 13:10					
BTEX by EPA 8021B	***Extracted:***	Mar-14-18 16:45		Mar-14-18 16:45		Mar-14-18 16:45		Mar-14-18 16:45					
	Analyzed:	Mar-15-18 02:20		Mar-15-18 02:38		Mar-15-18 02:57		Mar-15-18 08:39					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	0.162	0.00336				
Toluene		<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	0.158	0.00336				
Ethylbenzene		<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	0.165	0.00336				
m,p-Xylenes		<0.00403	0.00403	<0.00398	0.00398	<0.00399	0.00399	0.321	0.00671				
o-Xylene		<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	0.162	0.00336				
Total Xylenes		<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	0.483	0.00336				
Total BTEX		<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	0.968	0.00336				
Inorganic Anions by EPA 300	***Extracted:***	Mar-14-18 11:00		Mar-14-18 11:00		Mar-14-18 11:00		Mar-14-18 11:00					
	Analyzed:	Mar-14-18 17:05		Mar-15-18 16:34		Mar-15-18 12:34		Mar-15-18 12:39					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		779	50.0	261	4.95	99.9	4.95	152	4.96				
TPH by SW8015 Mod	***Extracted:***	Mar-12-18 17:00		Mar-12-18 17:00		Mar-12-18 17:00		Mar-12-18 17:00					
	Analyzed:	Mar-13-18 00:32		Mar-13-18 01:32		Mar-13-18 01:51		Mar-13-18 02:10					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 578896

LT Environmental, Inc., Arvada, CO

Nash #42

Sample Id:	**EX-6**	Matrix:	Soil	Date Received:	03.10.18 12.21
Lab Sample Id:	578896-001	Date Collected:	03.07.18 12.40	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	03.14.18 11.00	Basis:	Wet Weight
Seq Number:	3043793				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**779**	50.0	mg/kg	03.14.18 17.05		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.12.18 17.00	Basis:	Wet Weight
Seq Number:	3043522				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.13.18 00.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.13.18 00.32	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.13.18 00.32	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.13.18 00.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	03.13.18 00.32	
o-Terphenyl	84-15-1	98	%	70-135	03.13.18 00.32	

Certificate of Analytical Results 578896

LT Environmental, Inc., Arvada, CO

Nash #42

Sample Id:	**EX-6**	Matrix:	Soil	Date Received:	03.10.18 12.21
Lab Sample Id:	578896-001	Date Collected:	03.07.18 12.40	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.14.18 16.45	Basis:	Wet Weight
Seq Number:	3043914				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	03.15.18 02.20	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	03.15.18 02.20	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	03.15.18 02.20	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	03.15.18 02.20	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	03.15.18 02.20	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	03.15.18 02.20	U	1
Total BTEX		<0.00202	0.00202	mg/kg	03.15.18 02.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	126	%	70-130	03.15.18 02.20	
1,4-Difluorobenzene	540-36-3	91	%	70-130	03.15.18 02.20	

Certificate of Analytical Results 578896

LT Environmental, Inc., Arvada, CO

Nash #42

Sample Id:	**EX-7**	Matrix:	Soil	Date Received:	03.10.18 12.21
Lab Sample Id:	578896-002	Date Collected:	03.07.18 12.50	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	03.14.18 11.00	Basis:	Wet Weight
Seq Number:	3043793				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**261**	4.95	mg/kg	03.15.18 16.34		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.12.18 17.00	Basis:	Wet Weight
Seq Number:	3043522				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.13.18 01.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.13.18 01.32	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.13.18 01.32	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.13.18 01.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	03.13.18 01.32	
o-Terphenyl	84-15-1	95	%	70-135	03.13.18 01.32	

Certificate of Analytical Results 578896

LT Environmental, Inc., Arvada, CO

Nash #42

Sample Id:	**EX-7**	Matrix:	Soil	Date Received:	03.10.18 12.21
Lab Sample Id:	578896-002	Date Collected:	03.07.18 12.50	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.14.18 16.45	Basis:	Wet Weight
Seq Number:	3043914				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.15.18 02.38	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.15.18 02.38	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.15.18 02.38	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.15.18 02.38	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.15.18 02.38	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.15.18 02.38	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.15.18 02.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	70-130	03.15.18 02.38	
1,4-Difluorobenzene	540-36-3	82	%	70-130	03.15.18 02.38	

LT Environmental, Inc., Arvada, CO

Nash #42

Sample Id:	**EX-8**	Matrix:	Soil	Date Received:	03.10.18 12.21
Lab Sample Id:	578896-003	Date Collected:	03.07.18 13.00	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	03.14.18 11.00	Basis:	Wet Weight
Seq Number:	3043793				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**99.9**	4.95	mg/kg	03.15.18 12.34		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.12.18 17.00	Basis:	Wet Weight
Seq Number:	3043522				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.13.18 01.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.13.18 01.51	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.13.18 01.51	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.13.18 01.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	03.13.18 01.51	
o-Terphenyl	84-15-1	95	%	70-135	03.13.18 01.51	

Certificate of Analytical Results 578896

LT Environmental, Inc., Arvada, CO

Nash #42

Sample Id:	**EX-8**	Matrix:	Soil	Date Received:	03.10.18 12.21
Lab Sample Id:	578896-003	Date Collected:	03.07.18 13.00	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.14.18 16.45	Basis:	Wet Weight
Seq Number:	3043914				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.15.18 02.57	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.15.18 02.57	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.15.18 02.57	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.15.18 02.57	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.15.18 02.57	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.15.18 02.57	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.15.18 02.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	130	%	70-130	03.15.18 02.57	
1,4-Difluorobenzene	540-36-3	94	%	70-130	03.15.18 02.57	

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LT Environmental, Inc., Arvada, CO

Nash #42

Sample Id:	**FS-3**	Matrix:	Soil	Date Received:	03.10.18 12.21
Lab Sample Id:	578896-004	Date Collected:	03.07.18 13.10	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	03.14.18 11.00	Basis:	Wet Weight
Seq Number:	3043793				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**152**	4.96	mg/kg	03.15.18 12.39		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.12.18 17.00	Basis:	Wet Weight
Seq Number:	3043522				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.13.18 02.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.13.18 02.10	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.13.18 02.10	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.13.18 02.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	03.13.18 02.10	
o-Terphenyl	84-15-1	92	%	70-135	03.13.18 02.10	

Certificate of Analytical Results 578896

LT Environmental, Inc., Arvada, CO

Nash #42

Sample Id:	**FS-3**	Matrix:	Soil	Date Received:	03.10.18 12.21
Lab Sample Id:	578896-004	Date Collected:	03.07.18 13.10	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.14.18 16.45	Basis:	Wet Weight
Seq Number:	3043914				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.162**	0.00336	mg/kg	03.15.18 08.39		1
Toluene	108-88-3	**0.158**	0.00336	mg/kg	03.15.18 08.39		1
Ethylbenzene	100-41-4	**0.165**	0.00336	mg/kg	03.15.18 08.39		1
m,p-Xylenes	179601-23-1	**0.321**	0.00671	mg/kg	03.15.18 08.39		1
o-Xylene	95-47-6	**0.162**	0.00336	mg/kg	03.15.18 08.39		1
Total Xylenes	1330-20-7	**0.483**	0.00336	mg/kg	03.15.18 08.39		1
Total BTEX		**0.968**	0.00336	mg/kg	03.15.18 08.39		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	119	%	70-130	03.15.18 08.39	
1,4-Difluorobenzene	540-36-3	88	%	70-130	03.15.18 08.39	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 578896

LT Environmental, Inc.

Nash #42

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3043793 Matrix: Solid Date Prep: 03.14.18
MB Sample Id: 7640799-1-BLK LCS Sample Id: 7640799-1-BKS LCSD Sample Id: 7640799-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	250	100	251	100	90-110	0	20	mg/kg	03.14.18 15:40	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3043793 Matrix: Soil Date Prep: 03.14.18
Parent Sample Id: 578842-001 MS Sample Id: 578842-001 S MSD Sample Id: 578842-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.95	248	257	104	246	99	90-110	4	20	mg/kg	03.14.18 15:55	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3043793 Matrix: Soil Date Prep: 03.14.18
Parent Sample Id: 578897-001 MS Sample Id: 578897-001 S MSD Sample Id: 578897-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.95	248	275	111	290	117	90-110	5	20	mg/kg	03.14.18 17:32	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3043522 Matrix: Solid Date Prep: 03.12.18
MB Sample Id: 7640686-1-BLK LCS Sample Id: 7640686-1-BKS LCSD Sample Id: 7640686-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	914	91	909	91	70-135	1	35	mg/kg	03.12.18 20:15	
Diesel Range Organics (DRO)	<15.0	1000	825	83	813	81	70-135	1	35	mg/kg	03.12.18 20:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	86		98		102		70-135	%	03.12.18 20:15
o-Terphenyl	93		92		90		70-135	%	03.12.18 20:15

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

QC Summary 578896

LT Environmental, Inc.

Nash #42

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3043522 | Matrix: Soil | Date Prep: 03.12.18
Parent Sample Id: 578928-001 | MS Sample Id: 578928-001 S | MSD Sample Id: 578928-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	3700	999	3980	28	3700	0	70-135	7	35	mg/kg	03.12.18 21:15	X
Diesel Range Organics (DRO)	3520	999	3420	0	3200	0	70-135	7	35	mg/kg	03.12.18 21:15	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		97		70-135	%	03.12.18 21:15
o-Terphenyl	106		106		70-135	%	03.12.18 21:15

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3043914 | Matrix: Solid | Date Prep: 03.14.18
MB Sample Id: 7640818-1-BLK | LCS Sample Id: 7640818-1-BKS | LCSD Sample Id: 7640818-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.115	115	0.0834	83	70-130	32	35	mg/kg	03.15.18 00:30	
Toluene	<0.00201	0.100	0.111	111	0.0819	81	70-130	30	35	mg/kg	03.15.18 00:30	
Ethylbenzene	<0.00201	0.100	0.114	114	0.0873	86	70-130	27	35	mg/kg	03.15.18 00:30	
m,p-Xylenes	<0.00402	0.201	0.223	111	0.169	84	70-130	28	35	mg/kg	03.15.18 00:30	
o-Xylene	<0.00201	0.100	0.114	114	0.0882	87	70-130	26	35	mg/kg	03.15.18 00:30	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	87		73		71		70-130	%	03.15.18 00:30
4-Bromofluorobenzene	123		129		127		70-130	%	03.15.18 00:30

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3043914 | Matrix: Soil | Date Prep: 03.14.18
Parent Sample Id: 578896-001 | MS Sample Id: 578896-001 S | MSD Sample Id: 578896-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0831	83	0.0961	96	70-130	15	35	mg/kg	03.15.18 01:05	
Toluene	<0.00201	0.100	0.0816	82	0.0938	94	70-130	14	35	mg/kg	03.15.18 01:05	
Ethylbenzene	<0.00201	0.100	0.0870	87	0.0977	98	70-130	12	35	mg/kg	03.15.18 01:05	
m,p-Xylenes	<0.00402	0.201	0.168	84	0.191	96	70-130	13	35	mg/kg	03.15.18 01:05	
o-Xylene	<0.00201	0.100	0.0878	88	0.0963	97	70-130	9	35	mg/kg	03.15.18 01:05	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	71		88		70-130	%	03.15.18 01:05
4-Bromofluorobenzene	127		119		70-130	%	03.15.18 01:05

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

Final 1.000

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

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

Xenco Quote #

Xenco Job # 578896

Client / Reporting Information

Company Name / Branch: LTE / Permian

Company Address: 3300 N. A Street Bldg 1 Suite 103 Midland TX 79705

Email: Abaker@ltenv.com

Phone No: 432-704-5178

Project Contact: Adrian Baker

Samplers's Name: Aaron Williamson

Project Information

Project Name/Number: Nash #42

Project Location: NM

Invoice To: XTO Energy - Kyle Littrell

PO Number: 30-015-37194

Analytical Information

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Btex EPA Method 8021	TPH EPA Method 8015	Chloride EPA Method 300.1
1	EX-6	4'	3-9-18	1240	S	1									X	X	X
2	EX-7	4'		1250											X	X	X
3	EX-8	4'		1300											X	X	X
4	FS-3	4'		1310											X	X	X
5																	
6																	
7																	
8																	
9																	
10																	

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

Field Comments

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY
- [x] STANDARD TAT

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes: API 30-015-37194

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sample:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		3-9-18 1700	1	2	3/10	2
3	Relinquished by:	Date Time: 3/10 12:2	3 Julian M	4	Date Time:	Received By: 4
5	Relinquished by:	Date/Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice ✓

Temp: 2.1 IR ID:R-8

CF:(0-6: -0.2°C)
(6-23: +0.2°C)

Corrected Temp: 1.9

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not will be enforced unless previously negotiated under a fully executed client contract.

Final 1.000

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XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 03/10/2018 12:21:00 PM

Work Order #: 578896

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)?	1.9
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 03/10/2018

Checklist reviewed by: Jessica Kramer Date: 03/12/2018

Analytical Report 585763

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Nash Draw 42

18-MAY-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-25), 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)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

18-MAY-18

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

Reference: XENCO Report No(s): **585763**
Nash Draw 42
Project Address: 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) 585763. 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. 585763 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

Jessica Kramer
Project Assistant

Sample Cross Reference 585763

LT Environmental, Inc., Arvada, CO

Nash Draw 42

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
EX-5	S	05-10-18 10:15	3 ft	585763-001

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3050565 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.

Certificate of Analysis Summary 585763

LT Environmental, Inc., Arvada, CO

Project Name: Nash Draw 42

Project Id:
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Fri May-11-18 10:55 am
Report Date: 18-MAY-18
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	585763-001					
	Field Id:	EX-5					
	Depth:	3- ft					
	Matrix:	SOIL					
	Sampled:	May-10-18 10:15					
BTEX by EPA 8021B	***Extracted:***	May-17-18 15:40					
	Analyzed:	May-17-18 19:12					
	Units/RL:	mg/kg	RL				
Benzene		<0.00201	0.00201				
Toluene		<0.00201	0.00201				
Ethylbenzene		<0.00201	0.00201				
m,p-Xylenes		<0.00402	0.00402				
o-Xylene		<0.00201	0.00201				
Total Xylenes		<0.00201	0.00201				
Total BTEX		<0.00201	0.00201				
Inorganic Anions by EPA 300	***Extracted:***	May-14-18 15:30					
	Analyzed:	May-14-18 18:38					
	Units/RL:	mg/kg	RL				
Chloride		109	50.0				
TPH by SW8015 Mod	***Extracted:***	May-12-18 10:00					
	Analyzed:	May-13-18 11:10					
	Units/RL:	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0				
Diesel Range Organics (DRO)		<15.0	15.0				
Oil Range Hydrocarbons (ORO)		<15.0	15.0				
Total TPH		<15.0	15.0				

Jessica Kramer
Project Assistant

Certificate of Analytical Results 585763

LT Environmental, Inc., Arvada, CO

Nash Draw 42

Sample Id:	**EX-5**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585763-001	Date Collected:	05.10.18 10.15	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.14.18 15.30	Basis:	Wet Weight
Seq Number:	3050071				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**109**	50.0	mg/kg	05.14.18 18.38		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.12.18 10.00	Basis:	Wet Weight
Seq Number:	3049983				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.13.18 11.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.13.18 11.10	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.13.18 11.10	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.13.18 11.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	05.13.18 11.10	
o-Terphenyl	84-15-1	86	%	70-135	05.13.18 11.10	

Certificate of Analytical Results 585763

LT Environmental, Inc., Arvada, CO

Nash Draw 42

Sample Id:	**EX-5**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585763-001	Date Collected:	05.10.18 10.15	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.17.18 15.40	Basis:	Wet Weight
Seq Number:	3050565				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.17.18 19.12	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.17.18 19.12	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.17.18 19.12	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.17.18 19.12	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.17.18 19.12	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.17.18 19.12	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.17.18 19.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	78	%	70-130	05.17.18 19.12	
4-Bromofluorobenzene	460-00-4	87	%	70-130	05.17.18 19.12	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 585763

LT Environmental, Inc.

Nash Draw 42

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3050071 Matrix: Solid Date Prep: 05.14.18
MB Sample Id: 7644694-1-BLK LCS Sample Id: 7644694-1-BKS LCSD Sample Id: 7644694-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	230	92	225	90	90-110	2	20	mg/kg	05.14.18 16:08	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3050071 Matrix: Soil Date Prep: 05.14.18
Parent Sample Id: 585760-002 MS Sample Id: 585760-002 S MSD Sample Id: 585760-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	54.6	250	322	107	314	104	90-110	3	20	mg/kg	05.14.18 16:26	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3050071 Matrix: Soil Date Prep: 05.14.18
Parent Sample Id: 585761-002 MS Sample Id: 585761-002 S MSD Sample Id: 585761-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	257	103	246	98	90-110	4	20	mg/kg	05.14.18 17:50	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3049983 Matrix: Solid Date Prep: 05.12.18
MB Sample Id: 7644589-1-BLK LCS Sample Id: 7644589-1-BKS LCSD Sample Id: 7644589-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1040	104	991	99	70-135	5	20	mg/kg	05.13.18 04:49	
Diesel Range Organics (DRO)	<15.0	1000	1130	113	1070	107	70-135	5	20	mg/kg	05.13.18 04:49	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	102		125		113		70-135	%	05.13.18 04:49
o-Terphenyl	106		116		102		70-135	%	05.13.18 04:49

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

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

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

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

Final 1.000

QC Summary 585763

LT Environmental, Inc.

Nash Draw 42

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3049983 Matrix: Soil Date Prep: 05.12.18
Parent Sample Id: 585815-001 MS Sample Id: 585815-001 S MSD Sample Id: 585815-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	997	979	98	898	90	70-135	9	20	mg/kg	05.13.18 06:11	
Diesel Range Organics (DRO)	<15.0	997	1070	107	995	100	70-135	7	20	mg/kg	05.13.18 06:11	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	116		107		70-135	%	05.13.18 06:11
o-Terphenyl	108		95		70-135	%	05.13.18 06:11

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3050565 Matrix: Solid Date Prep: 05.17.18
MB Sample Id: 7644971-1-BLK LCS Sample Id: 7644971-1-BKS LCSD Sample Id: 7644971-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.112	112	0.0963	96	70-130	15	35	mg/kg	05.17.18 15:15	
Toluene	<0.00200	0.100	0.111	111	0.0949	95	70-130	16	35	mg/kg	05.17.18 15:15	
Ethylbenzene	<0.00200	0.100	0.111	111	0.0954	95	70-130	15	35	mg/kg	05.17.18 15:15	
m,p-Xylenes	<0.00401	0.200	0.236	118	0.200	100	70-130	17	35	mg/kg	05.17.18 15:15	
o-Xylene	<0.00200	0.100	0.116	116	0.0986	99	70-130	16	35	mg/kg	05.17.18 15:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		97		109		70-130	%	05.17.18 15:15
4-Bromofluorobenzene	83		130		109		70-130	%	05.17.18 15:15

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B
Seq Number: 3050565 Matrix: Soil Date Prep: 05.17.18
Parent Sample Id: 585944-001 MS Sample Id: 585944-001 S MSD Sample Id: 585944-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0827	83	0.0926	93	70-130	11	35	mg/kg	05.17.18 15:57	
Toluene	<0.00199	0.0994	0.0783	79	0.0851	85	70-130	8	35	mg/kg	05.17.18 15:57	
Ethylbenzene	<0.00199	0.0994	0.0706	71	0.0796	80	70-130	12	35	mg/kg	05.17.18 15:57	
m,p-Xylenes	<0.00398	0.199	0.146	73	0.166	83	70-130	13	35	mg/kg	05.17.18 15:57	
o-Xylene	<0.00199	0.0994	0.0827	83	0.0821	82	70-130	1	35	mg/kg	05.17.18 15:57	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		105		70-130	%	05.17.18 15:57
4-Bromofluorobenzene	112		104		70-130	%	05.17.18 15:57

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

XENCO LABORATORIES

Setting the Standard since 1990

CHAIN OF CUSTODY

Page 1 Of 1

Stafford,Texas (281-240-4200) | San Antonio, Texas (210-509-3334) | Phoenix, Arizona (480-355-0900)

Dallas Texas (214-902-0300) | Midland, Texas (432-704-5251)

www.xenco.com

Xenco Quote #:

Xenco Job #: 585763

Client / Reporting Information

Company Name / Branch: LT Environmental, Inc. - Permian Office

Company Address: 3300 North "A" Street, Building 1, Unit #103, Midland, TX 79705

Email: Abaker@LTEnv.com

Phone No: (432) 704-5178

Project Contact: Adrian Baker

Samplers's Name: Michael A Wicker

Project Information

Project Name/Number: Nash Draw 42

Project Location: NM

Invoice To: XTO Energy - Kyle Littrell

PO Number: 30-015-37194 (2RP-4253)

No.	Field ID / Point of Collection	Sample Depth	Date (Collection)	Time (Collection)	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	BTEX 8021	TPH 8015B	Cl-	Field Comments
1	Ex-5	3'	5/10/18	1015	S	1									X	X	X	
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [x] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:

Temp: 2.1 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 1.9

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

Relinquished by	Date Time	Received By	Relinquished By	Date Time	Received By
1 Relinquished by Sampler: [signature]	5/10 12:40	1 [signature]	2 [signature]	5/10/18 13:40	2 [signature]
3 Relinquished by: [signature]	5/10 3:30P	3 KRAMER 5-11-18 1055			4 Received By:
5 Relinquished by:		5 Received By:	Custody Seal #		

Preserved where applicable: [ ] | On Ice: [x] | Cooler Temp. | Thermo. Corr. Factor

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05/11/2018 10:55:00 AM

Work Order #: 585763

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)?	1.9
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 05/11/2018
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 05/11/2018
Jessica Kramer

Analytical Report 578896

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Nash #42

05-JUN-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-26), 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)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

05-JUN-18

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

Reference: XENCO Report No(s): **578896**
Nash #42
Project Address: 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) 578896. 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. 578896 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

Jessica Kramer
Project Assistant

Sample Cross Reference 578896

LT Environmental, Inc., Arvada, CO

Nash #42

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
EX-7	S	03-07-18 12:40	4 ft	578896-001
EX-8	S	03-07-18 12:50	4 ft	578896-002
EX-9	S	03-07-18 13:00	4 ft	578896-003
FS-3	S	03-07-18 13:10	4 ft	578896-004

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Nash #42

Project ID:
Work Order Number(s): *578896*

Report Date: *05-JUN-18*
Date Received: *03/10/2018*

Sample receipt non conformances and comments:

Client requested to correct sample names. Sample 001 EX-6 TO EX-7, Sample 002 EX-7 to EX-8, Sample 003 EX-8 to EX-9. JKR 06/05/18

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3043914 BTEX by EPA 8021B

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

Certificate of Analysis Summary 578896

LT Environmental, Inc., Arvada, CO

Project Name: Nash #42

Project Id:
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Sat Mar-10-18 12:21 pm
Report Date: 05-JUN-18
Project Manager: Jessica Kramer

Analysis Requested									
	Lab Id:	578896-001		578896-002		578896-003		578896-004	
	Field Id:	EX-7		EX-8		EX-9		FS-3	
	Depth:	4- ft		4- ft		4- ft		4- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL	
	Sampled:	Mar-07-18 12:40		Mar-07-18 12:50		Mar-07-18 13:00		Mar-07-18 13:10	
BTEX by EPA 8021B	***Extracted:***	Mar-14-18 16:45		Mar-14-18 16:45		Mar-14-18 16:45		Mar-14-18 16:45	
	Analyzed:	Mar-15-18 02:20		Mar-15-18 02:38		Mar-15-18 02:57		Mar-15-18 08:39	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	0.162	0.00336
Toluene		<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	0.158	0.00336
Ethylbenzene		<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	0.165	0.00336
m,p-Xylenes		<0.00403	0.00403	<0.00398	0.00398	<0.00399	0.00399	0.321	0.00671
o-Xylene		<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	0.162	0.00336
Total Xylenes		<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	0.483	0.00336
Total BTEX		<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	0.968	0.00336
Inorganic Anions by EPA 300	***Extracted:***	Mar-14-18 11:00		Mar-14-18 11:00		Mar-14-18 11:00		Mar-14-18 11:00	
	Analyzed:	Mar-14-18 17:05		Mar-15-18 16:34		Mar-15-18 12:34		Mar-15-18 12:39	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		779	50.0	261	4.95	99.9	4.95	152	4.96
TPH by SW8015 Mod	***Extracted:***	Mar-12-18 17:00		Mar-12-18 17:00		Mar-12-18 17:00		Mar-12-18 17:00	
	Analyzed:	Mar-13-18 00:32		Mar-13-18 01:32		Mar-13-18 01:51		Mar-13-18 02:10	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Diesel Range Organics (DRO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Oil Range Hydrocarbons (ORO)		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0
Total TPH		<15.0	15.0	<15.0	15.0	<15.0	15.0	<15.0	15.0

Jessica Kramer
Project Assistant

LT Environmental, Inc., Arvada, CO

Nash #42

Sample Id:	**EX-7**	Matrix:	Soil	Date Received:	03.10.18 12.21
Lab Sample Id:	578896-001	Date Collected:	03.07.18 12.40	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	03.14.18 11.00	Basis:	Wet Weight
Seq Number:	3043793				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**779**	50.0	mg/kg	03.14.18 17.05		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.12.18 17.00	Basis:	Wet Weight
Seq Number:	3043522				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.13.18 00.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.13.18 00.32	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.13.18 00.32	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.13.18 00.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	03.13.18 00.32	
o-Terphenyl	84-15-1	98	%	70-135	03.13.18 00.32	

Certificate of Analytical Results 578896

LT Environmental, Inc., Arvada, CO

Nash #42

Sample Id:	**EX-7**	Matrix:	Soil	Date Received:	03.10.18 12.21
Lab Sample Id:	578896-001	Date Collected:	03.07.18 12.40	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.14.18 16.45	Basis:	Wet Weight
Seq Number:	3043914				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	03.15.18 02.20	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	03.15.18 02.20	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	03.15.18 02.20	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	03.15.18 02.20	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	03.15.18 02.20	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	03.15.18 02.20	U	1
Total BTEX		<0.00202	0.00202	mg/kg	03.15.18 02.20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	126	%	70-130	03.15.18 02.20	
1,4-Difluorobenzene	540-36-3	91	%	70-130	03.15.18 02.20	

LT Environmental, Inc., Arvada, CO

Nash #42

Sample Id:	**EX-8**	Matrix:	Soil	Date Received:	03.10.18 12.21
Lab Sample Id:	578896-002	Date Collected:	03.07.18 12.50	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	03.14.18 11.00	Basis:	Wet Weight
Seq Number:	3043793				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**261**	4.95	mg/kg	03.15.18 16.34		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.12.18 17.00	Basis:	Wet Weight
Seq Number:	3043522				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.13.18 01.32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.13.18 01.32	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.13.18 01.32	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.13.18 01.32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	03.13.18 01.32	
o-Terphenyl	84-15-1	95	%	70-135	03.13.18 01.32	

Certificate of Analytical Results 578896

LT Environmental, Inc., Arvada, CO

Nash #42

Sample Id:	**EX-8**	Matrix:	Soil	Date Received:	03.10.18 12.21
Lab Sample Id:	578896-002	Date Collected:	03.07.18 12.50	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.14.18 16.45	Basis:	Wet Weight
Seq Number:	3043914				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	03.15.18 02.38	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	03.15.18 02.38	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	03.15.18 02.38	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	03.15.18 02.38	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	03.15.18 02.38	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	03.15.18 02.38	U	1
Total BTEX		<0.00199	0.00199	mg/kg	03.15.18 02.38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	117	%	70-130	03.15.18 02.38	
1,4-Difluorobenzene	540-36-3	82	%	70-130	03.15.18 02.38	

Certificate of Analytical Results 578896

LT Environmental, Inc., Arvada, CO

Nash #42

Sample Id:	**EX-9**	Matrix:	Soil	Date Received:	03.10.18 12.21
Lab Sample Id:	578896-003	Date Collected:	03.07.18 13.00	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	03.14.18 11.00	Basis:	Wet Weight
Seq Number:	3043793				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**99.9**	4.95	mg/kg	03.15.18 12.34		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.12.18 17.00	Basis:	Wet Weight
Seq Number:	3043522				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.13.18 01.51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.13.18 01.51	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.13.18 01.51	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.13.18 01.51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	03.13.18 01.51	
o-Terphenyl	84-15-1	95	%	70-135	03.13.18 01.51	

Certificate of Analytical Results 578896

LT Environmental, Inc., Arvada, CO

Nash #42

Sample Id:	**EX-9**	Matrix:	Soil	Date Received:	03.10.18 12.21
Lab Sample Id:	578896-003	Date Collected:	03.07.18 13.00	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.14.18 16.45	Basis:	Wet Weight
Seq Number:	3043914				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	03.15.18 02.57	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	03.15.18 02.57	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	03.15.18 02.57	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	03.15.18 02.57	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	03.15.18 02.57	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	03.15.18 02.57	U	1
Total BTEX		<0.00200	0.00200	mg/kg	03.15.18 02.57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	130	%	70-130	03.15.18 02.57	
1,4-Difluorobenzene	540-36-3	94	%	70-130	03.15.18 02.57	

LT Environmental, Inc., Arvada, CO

Nash #42

Sample Id:	**FS-3**	Matrix:	Soil	Date Received:	03.10.18 12.21
Lab Sample Id:	578896-004	Date Collected:	03.07.18 13.10	Sample Depth:	4 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	OJS			% Moisture:	
Analyst:	OJS	Date Prep:	03.14.18 11.00	Basis:	Wet Weight
Seq Number:	3043793				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**152**	4.96	mg/kg	03.15.18 12.39		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	03.12.18 17.00	Basis:	Wet Weight
Seq Number:	3043522				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	03.13.18 02.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	03.13.18 02.10	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	03.13.18 02.10	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	03.13.18 02.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	03.13.18 02.10	
o-Terphenyl	84-15-1	92	%	70-135	03.13.18 02.10	

Certificate of Analytical Results 578896

LT Environmental, Inc., Arvada, CO

Nash #42

Sample Id:	**FS-3**	Matrix:	Soil	Date Received:	03.10.18 12.21
Lab Sample Id:	578896-004	Date Collected:	03.07.18 13.10	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	03.14.18 16.45	Basis:	Wet Weight
Seq Number:	3043914				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.162**	0.00336	mg/kg	03.15.18 08.39		1
Toluene	108-88-3	**0.158**	0.00336	mg/kg	03.15.18 08.39		1
Ethylbenzene	100-41-4	**0.165**	0.00336	mg/kg	03.15.18 08.39		1
m,p-Xylenes	179601-23-1	**0.321**	0.00671	mg/kg	03.15.18 08.39		1
o-Xylene	95-47-6	**0.162**	0.00336	mg/kg	03.15.18 08.39		1
Total Xylenes	1330-20-7	**0.483**	0.00336	mg/kg	03.15.18 08.39		1
Total BTEX		**0.968**	0.00336	mg/kg	03.15.18 08.39		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	119	%	70-130	03.15.18 08.39	
1,4-Difluorobenzene	540-36-3	88	%	70-130	03.15.18 08.39	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 578896

LT Environmental, Inc.

Nash #42

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3043793 Matrix: Solid Date Prep: 03.14.18
MB Sample Id: 7640799-1-BLK LCS Sample Id: 7640799-1-BKS LCSD Sample Id: 7640799-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	250	100	251	100	90-110	0	20	mg/kg	03.14.18 15:40	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3043793 Matrix: Soil Date Prep: 03.14.18
Parent Sample Id: 578842-001 MS Sample Id: 578842-001 S MSD Sample Id: 578842-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.95	248	257	104	246	99	90-110	4	20	mg/kg	03.14.18 15:55	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3043793 Matrix: Soil Date Prep: 03.14.18
Parent Sample Id: 578897-001 MS Sample Id: 578897-001 S MSD Sample Id: 578897-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<4.95	248	275	111	290	117	90-110	5	20	mg/kg	03.14.18 17:32	X

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3043522 Matrix: Solid Date Prep: 03.12.18
MB Sample Id: 7640686-1-BLK LCS Sample Id: 7640686-1-BKS LCSD Sample Id: 7640686-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	914	91	909	91	70-135	1	35	mg/kg	03.12.18 20:15	
Diesel Range Organics (DRO)	<15.0	1000	825	83	813	81	70-135	1	35	mg/kg	03.12.18 20:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	86		98		102		70-135	%	03.12.18 20:15
o-Terphenyl	93		92		90		70-135	%	03.12.18 20:15

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

QC Summary 578896

LT Environmental, Inc.

Nash #42

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3043522 | Matrix: Soil | Date Prep: 03.12.18
Parent Sample Id: 578928-001 | MS Sample Id: 578928-001 S | MSD Sample Id: 578928-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	3700	999	3980	28	3700	0	70-135	7	35	mg/kg	03.12.18 21:15	X
Diesel Range Organics (DRO)	3520	999	3420	0	3200	0	70-135	7	35	mg/kg	03.12.18 21:15	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		97		70-135	%	03.12.18 21:15
o-Terphenyl	106		106		70-135	%	03.12.18 21:15

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3043914 | Matrix: Solid | Date Prep: 03.14.18
MB Sample Id: 7640818-1-BLK | LCS Sample Id: 7640818-1-BKS | LCSD Sample Id: 7640818-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.115	115	0.0834	83	70-130	32	35	mg/kg	03.15.18 00:30	
Toluene	<0.00201	0.100	0.111	111	0.0819	81	70-130	30	35	mg/kg	03.15.18 00:30	
Ethylbenzene	<0.00201	0.100	0.114	114	0.0873	86	70-130	27	35	mg/kg	03.15.18 00:30	
m,p-Xylenes	<0.00402	0.201	0.223	111	0.169	84	70-130	28	35	mg/kg	03.15.18 00:30	
o-Xylene	<0.00201	0.100	0.114	114	0.0882	87	70-130	26	35	mg/kg	03.15.18 00:30	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	87		73		71		70-130	%	03.15.18 00:30
4-Bromofluorobenzene	123		129		127		70-130	%	03.15.18 00:30

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3043914 | Matrix: Soil | Date Prep: 03.14.18
Parent Sample Id: 578896-001 | MS Sample Id: 578896-001 S | MSD Sample Id: 578896-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0831	83	0.0961	96	70-130	15	35	mg/kg	03.15.18 01:05	
Toluene	<0.00201	0.100	0.0816	82	0.0938	94	70-130	14	35	mg/kg	03.15.18 01:05	
Ethylbenzene	<0.00201	0.100	0.0870	87	0.0977	98	70-130	12	35	mg/kg	03.15.18 01:05	
m,p-Xylenes	<0.00402	0.201	0.168	84	0.191	96	70-130	13	35	mg/kg	03.15.18 01:05	
o-Xylene	<0.00201	0.100	0.0878	88	0.0963	97	70-130	9	35	mg/kg	03.15.18 01:05	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	71		88		70-130	%	03.15.18 01:05
4-Bromofluorobenzene	127		119		70-130	%	03.15.18 01:05

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

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

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

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

CHAIN OF CUSTODY

Page 1 Of 1

XENCO LABORATORIES

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

Xenco Quote #

Xenco Job # 578896

Client / Reporting Information

Company Name / Branch: LTE / Permian

Company Address: 3300 N. A Street Bldg 1 Suite 103 Midland TX 79705

Email: Abaker@ltenv.com

Phone No: 432-704-5178

Project Contact: Adrian Baker

Samplers's Name: Aaron Williamson

Project Information

Project Name/Number: Nash #42

Project Location: NM

Invoice To: XTO Energy - Kyle Littrell

PO Number: 30-015-37194

Analytical Information

Matrix Codes

W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Collection: Sample Depth	Collection: Date	Collection: Time	Matrix	# of bottles	Number of preserved bottles: HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	Btex EPA Method 8021	TPH EPA Method 8015	Chloride EPA Method 300.1	Field Comments
1	EX-6	4'	3-7-18	1240	S	1									X	X	X	
2	EX-7	4'		1250											X	X	X	
3	EX-8	4'		1300											X	X	X	
4	FS-3	4'		1310											X	X	X	
5																		
6																		
7																		
8																		
9																		
10																		

Turnaround Time (Business days)

- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [ ] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY
- [x] STANDARD TAT

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information

- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes: API 30-015-37194

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		3-9-18 1700	1	2	3/10	2
3	Relinquished by:	Date Time: 3/10 12:2	Received By: Julian M	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date/Time:	Received By: 5	Custody Seal #	Preserved where applicable	On Ice ✓

Temp: 2.1 IR ID:R-8

CF:(0-6: -0.2°C)
(6-23: +0.2°C)

Corrected Temp: 1.9

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 03/10/2018 12:21:00 PM

Work Order #: 578896

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)?	1.9
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Katie Lowe Date: 03/10/2018

Checklist reviewed by: Jessica Kramer Date: 03/12/2018

Analytical Report 585763

for

LT Environmental, Inc.

Project Manager: Adrian Baker

Nash Draw 42

05-JUN-18

Collected By: Client

1211 W. Florida Ave, Midland TX 79701

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-18-26), 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)
Xenco-Tampa: Florida (E87429)
Xenco-Lakeland: Florida (E84098)

05-JUN-18

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

Reference: XENCO Report No(s): **585763**
Nash Draw 42
Project Address: 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) 585763. 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. 585763 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

Jessica Kramer
Project Assistant

Sample Cross Reference 585763

LT Environmental, Inc., Arvada, CO

Nash Draw 42

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
EX-10	S	05-10-18 10:15	3 ft	585763-001

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Nash Draw 42

Project ID:
Work Order Number(s): *585763*

Report Date: *05-JUN-18*
Date Received: *05/11/2018*

Sample receipt non conformances and comments:

Client requested to correct sample name. Sample 001 EX-5 to EX-10. New version generated. JKR 06/05/18

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3050565 BTEX by EPA 8021B

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

Certificate of Analysis Summary 585763

LT Environmental, Inc., Arvada, CO

Project Name: Nash Draw 42

Project Id:
Contact: Adrian Baker
Project Location: NM

Date Received in Lab: Fri May-11-18 10:55 am
Report Date: 05-JUN-18
Project Manager: Jessica Kramer

Analysis Requested							
	Lab Id:	585763-001					
	Field Id:	EX-10					
	Depth:	3- ft					
	Matrix:	SOIL					
	Sampled:	May-10-18 10:15					
BTEX by EPA 8021B	***Extracted:***	May-17-18 15:40					
	Analyzed:	May-17-18 19:12					
	Units/RL:	mg/kg RL					
Benzene		<0.00201 0.00201					
Toluene		<0.00201 0.00201					
Ethylbenzene		<0.00201 0.00201					
m,p-Xylenes		<0.00402 0.00402					
o-Xylene		<0.00201 0.00201					
Total Xylenes		<0.00201 0.00201					
Total BTEX		<0.00201 0.00201					
Inorganic Anions by EPA 300	***Extracted:***	May-14-18 15:30					
	Analyzed:	May-14-18 18:38					
	Units/RL:	mg/kg RL					
Chloride		109 50.0					
TPH by SW8015 Mod	***Extracted:***	May-12-18 10:00					
	Analyzed:	May-13-18 11:10					
	Units/RL:	mg/kg RL					
Gasoline Range Hydrocarbons (GRO)		<15.0 15.0					
Diesel Range Organics (DRO)		<15.0 15.0					
Oil Range Hydrocarbons (ORO)		<15.0 15.0					
Total TPH		<15.0 15.0					

Jessica Kramer
Project Assistant

Certificate of Analytical Results 585763

LT Environmental, Inc., Arvada, CO

Nash Draw 42

Sample Id:	**EX-10**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585763-001	Date Collected:	05.10.18 10.15	Sample Depth:	3 ft

Analytical Method:	Inorganic Anions by EPA 300			Prep Method:	E300P
Tech:	SCM			% Moisture:	
Analyst:	SCM	Date Prep:	05.14.18 15.30	Basis:	Wet Weight
Seq Number:	3050071				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**109**	50.0	mg/kg	05.14.18 18.38		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	ARM			% Moisture:	
Analyst:	ARM	Date Prep:	05.12.18 10.00	Basis:	Wet Weight
Seq Number:	3049983				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	05.13.18 11.10	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	05.13.18 11.10	U	1
Oil Range Hydrocarbons (ORO)	PHCG2835	<15.0	15.0	mg/kg	05.13.18 11.10	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	05.13.18 11.10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	05.13.18 11.10	
o-Terphenyl	84-15-1	86	%	70-135	05.13.18 11.10	

Certificate of Analytical Results 585763

LT Environmental, Inc., Arvada, CO

Nash Draw 42

Sample Id:	**EX-10**	Matrix:	Soil	Date Received:	05.11.18 10.55
Lab Sample Id:	585763-001	Date Collected:	05.10.18 10.15	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALJ			% Moisture:	
Analyst:	ALJ	Date Prep:	05.17.18 15.40	Basis:	Wet Weight
Seq Number:	3050565				

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.17.18 19.12	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.17.18 19.12	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.17.18 19.12	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.17.18 19.12	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.17.18 19.12	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.17.18 19.12	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.17.18 19.12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	78	%	70-130	05.17.18 19.12	
4-Bromofluorobenzene	460-00-4	87	%	70-130	05.17.18 19.12	

Flagging Criteria

X In our quality control review of the data a QC deficiency was observed and flagged as noted. MS/MSD recoveries were found to be outside of the laboratory control limits due to possible matrix /chemical interference, or a concentration of target analyte high enough to affect the recovery of the spike concentration. This condition could also affect the relative percent difference in the MS/MSD.

B A target analyte or common laboratory contaminant was identified in the method blank. Its presence indicates possible field or laboratory contamination.

D The sample(s) were diluted due to targets detected over the highest point of the calibration curve, or due to matrix interference. Dilution factors are included in the final results. The result is from a diluted sample.

E The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.

F RPD exceeded lab control limits.

J The target analyte was positively identified below the quantitation limit and above the detection limit.

U Analyte was not detected.

L The LCS data for this analytical batch was reported below the laboratory control limits for this analyte. The department supervisor and QA Director reviewed data. The samples were either reanalyzed or flagged as estimated concentrations.

H The LCS data for this analytical batch was reported above the laboratory control limits. Supporting QC Data were reviewed by the Department Supervisor and QA Director. Data were determined to be valid for reporting.

K Sample analyzed outside of recommended hold time.

JN A combination of the "N" and the "J" qualifier. The analysis indicates that the analyte is "tentatively identified" and the associated numerical value may not be consistent with the amount actually present in the environmental sample.

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

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

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

DL Method Detection Limit

NC Non-Calculable

SMP Client Sample **BLK** Method Blank

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

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

+ NELAC certification not offered for this compound.

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

QC Summary 585763

LT Environmental, Inc.

Nash Draw 42

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3050071 Matrix: Solid Date Prep: 05.14.18
MB Sample Id: 7644694-1-BLK LCS Sample Id: 7644694-1-BKS LCSD Sample Id: 7644694-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	230	92	225	90	90-110	2	20	mg/kg	05.14.18 16:08	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3050071 Matrix: Soil Date Prep: 05.14.18
Parent Sample Id: 585760-002 MS Sample Id: 585760-002 S MSD Sample Id: 585760-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	54.6	250	322	107	314	104	90-110	3	20	mg/kg	05.14.18 16:26	

Analytical Method: **Inorganic Anions by EPA 300** Prep Method: E300P
Seq Number: 3050071 Matrix: Soil Date Prep: 05.14.18
Parent Sample Id: 585761-002 MS Sample Id: 585761-002 S MSD Sample Id: 585761-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<5.00	250	257	103	246	98	90-110	4	20	mg/kg	05.14.18 17:50	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3049983 Matrix: Solid Date Prep: 05.12.18
MB Sample Id: 7644589-1-BLK LCS Sample Id: 7644589-1-BKS LCSD Sample Id: 7644589-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	1000	1040	104	991	99	70-135	5	20	mg/kg	05.13.18 04:49	
Diesel Range Organics (DRO)	<15.0	1000	1130	113	1070	107	70-135	5	20	mg/kg	05.13.18 04:49	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	102		125		113		70-135	%	05.13.18 04:49
o-Terphenyl	106		116		102		70-135	%	05.13.18 04:49

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

QC Summary 585763

LT Environmental, Inc.

Nash Draw 42

Analytical Method: TPH by SW8015 Mod | Prep Method: TX1005P
Seq Number: 3049983 | Matrix: Soil | Date Prep: 05.12.18
Parent Sample Id: 585815-001 | MS Sample Id: 585815-001 S | MSD Sample Id: 585815-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<15.0	997	979	98	898	90	70-135	9	20	mg/kg	05.13.18 06:11	
Diesel Range Organics (DRO)	<15.0	997	1070	107	995	100	70-135	7	20	mg/kg	05.13.18 06:11	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	116		107		70-135	%	05.13.18 06:11
o-Terphenyl	108		95		70-135	%	05.13.18 06:11

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3050565 | Matrix: Solid | Date Prep: 05.17.18
MB Sample Id: 7644971-1-BLK | LCS Sample Id: 7644971-1-BKS | LCSD Sample Id: 7644971-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.112	112	0.0963	96	70-130	15	35	mg/kg	05.17.18 15:15	
Toluene	<0.00200	0.100	0.111	111	0.0949	95	70-130	16	35	mg/kg	05.17.18 15:15	
Ethylbenzene	<0.00200	0.100	0.111	111	0.0954	95	70-130	15	35	mg/kg	05.17.18 15:15	
m,p-Xylenes	<0.00401	0.200	0.236	118	0.200	100	70-130	17	35	mg/kg	05.17.18 15:15	
o-Xylene	<0.00200	0.100	0.116	116	0.0986	99	70-130	16	35	mg/kg	05.17.18 15:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		97		109		70-130	%	05.17.18 15:15
4-Bromofluorobenzene	83		130		109		70-130	%	05.17.18 15:15

Analytical Method: BTEX by EPA 8021B | Prep Method: SW5030B
Seq Number: 3050565 | Matrix: Soil | Date Prep: 05.17.18
Parent Sample Id: 585944-001 | MS Sample Id: 585944-001 S | MSD Sample Id: 585944-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.0827	83	0.0926	93	70-130	11	35	mg/kg	05.17.18 15:57	
Toluene	<0.00199	0.0994	0.0783	79	0.0851	85	70-130	8	35	mg/kg	05.17.18 15:57	
Ethylbenzene	<0.00199	0.0994	0.0706	71	0.0796	80	70-130	12	35	mg/kg	05.17.18 15:57	
m,p-Xylenes	<0.00398	0.199	0.146	73	0.166	83	70-130	13	35	mg/kg	05.17.18 15:57	
o-Xylene	<0.00199	0.0994	0.0827	83	0.0821	82	70-130	1	35	mg/kg	05.17.18 15:57	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		105		70-130	%	05.17.18 15:57
4-Bromofluorobenzene	112		104		70-130	%	05.17.18 15:57

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

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

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

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

CHAIN OF CUSTODY

Page 1 Of 1

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Xenco Quote #
Xenco Job # 585763

Client / Reporting Information

Company Name / Branch: LT Environmental, Inc. - Permian Office
Company Address: 3300 North "A" Street, Building 1, Unit #103, Midland, TX 79705
Email: Abaker@LTEnv.com
Phone No: (432) 704-5178
Project Contact: Adrian Baker
Samplers's Name: Michael A Wicker

Project Information

Project Name/Number: Nash Draw 42
Project Location: NM
Invoice To: XTO Energy - Kyle Littrell
PO Number: 30-015-37194 (2RP-4253)

Analytical Information: BTEX 8021; TPH 8015B; Cl⁻

Matrix Codes
W = Water
S = Soil/Sed/Solid
GW =Ground Water
DW = Drinking Water
P = Product
SW = Surface water
SL = Sludge
OW =Ocean/Sea Water
WI = Wipe
O = Oil
WW= Waste Water
A = Air

No.	Field ID / Point of Collection	Sample Depth	Date	Time	Matrix	# of bottles	HCl	NaOH/Zn Acetate	HNO3	H2SO4	NaOH	NaHSO4	MEOH	NONE	BTEX 8021	TPH 8015B	Cl⁻	Field Comments
1	Ex-5	3'	5/10/18	1015	S	1									X	X	X	
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Turnaround Time (Business days)
- [ ] Same Day TAT
- [ ] 5 Day TAT
- [ ] Next Day EMERGENCY
- [x] 7 Day TAT
- [ ] 2 Day EMERGENCY
- [ ] Contract TAT
- [ ] 3 Day EMERGENCY

TAT Starts Day received by Lab, if received by 5:00 pm

Data Deliverable Information
- [ ] Level II Std QC
- [ ] Level IV (Full Data Pkg /raw data)
- [ ] Level III Std QC+ Forms
- [ ] TRRP Level IV
- [ ] Level 3 (CLP Forms)
- [ ] UST / RG -411
- [ ] TRRP Checklist

Notes:
Temp: 2.1 IR ID:R-8
CF:(0-6: -0.2°C)
(6-23: +0.2°C)
Corrected Temp: 1.9

FED-EX / UPS: Tracking #

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

Relinquished by	Date Time	Received By	Relinquished By	Date Time	Received By
1 Relinquished by Sampler: [signature]	5/10 12:40	1 [signature]	2 [signature]	5/10/18 13:40	2 [signature]
3 Relinquished by: [signature]	5/10 3:30P	3 KRAMER 5-11-18 1055	Relinquished By:	Date Time:	4 Received By:
5 Relinquished by:	Date Time:	5 Received By:	Custody Seal #	Preserved where applicable	On Ice [X] Cooler Temp. Thermo. Corr. Factor

Notice: Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the Client if such loses are due to circumstances beyond the control of Xenco. A minimum charge of $75 will be applied to each project. Xenco's liability will be limited to the cost of samples. Any samples received by Xenco but not analyzed will be invoiced at $5 per sample. These terms will be enforced unless previously negotiated under a fully executed client contract.

XENCO Laboratories
Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05/11/2018 10:55:00 AM

Work Order #: 585763

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)?	1.9
#2 *Shipping container in good condition?	**Yes**
#3 *Samples received on ice?	**Yes**
#4 *Custody Seals intact on shipping container/ cooler?	**N/A**
#5 Custody Seals intact on sample bottles?	**N/A**
#6*Custody Seals Signed and dated?	**N/A**
#7 *Chain of Custody present?	**Yes**
#8 Any missing/extra samples?	**No**
#9 Chain of Custody signed when relinquished/ received?	**Yes**
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**
#11 Container label(s) legible and intact?	**Yes**
#12 Samples in proper container/ bottle?	**Yes**
#13 Samples properly preserved?	**Yes**
#14 Sample container(s) intact?	**Yes**
#15 Sufficient sample amount for indicated test(s)?	**Yes**
#16 All samples received within hold time?	**Yes**
#17 Subcontract of sample(s)?	**N/A**
#18 Water VOC samples have zero headspace?	**N/A**

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

Analyst: PH Device/Lot#:

Checklist completed by: Brianna Teel Date: 05/11/2018
Brianna Teel

Checklist reviewed by: Jessica Kramer Date: 05/11/2018
Jessica Kramer