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

State of New Mexico
Energy Minerals and Natural Resources Department

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

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

Incident ID	NAB1918643207
District RP	2RP-5513
Facility ID	
Application ID	pAB1918642951

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Kyle Littrell	Contact Telephone 432-221-7331
Contact email Kyle_Littrell@xtoenergy.com	Incident # *(assigned by OCD)* NAB1918643207
Contact mailing address 522 W. Mermod, Carlsbad, NM 88220	

Location of Release Source

Latitude 32.309297° Longitude -103.930914°
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Nash Unit #53 SWD	Site Type Salt Water Disposal and Bulk Storage Facility
Date Release Discovered 6/11/2019	API# *(if applicable)* 30-015-39400

Unit Letter	Section	Township	Range	County
H	13	23S	29E	Eddy

Surface Owner: ☒ State ☐ Federal ☐ Tribal ☐ Private (*Name:* New Mexico)

Nature and Volume of Release

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

☒ Crude Oil	Volume Released (bbls) 21.71	Volume Recovered (bbls) 20
☒ Produced Water	Volume Released (bbls) 98.89	Volume Recovered (bbls) 90
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

A power outage caused the SWD programmable logic controller to fault. The gun barrels overflowed and released fluids to an earthen containment and to lined containment covered with caliche and gravel. Additional third party resources have been retained to assist with remediation.

Form C-141
Page 2

State of New Mexico
Oil Conservation Division

Incident ID	NAB1918643207
District RP	2RP-5513
Facility ID	
Application ID	pAB1918642951

Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? An unauthorized release of a volume of 25 barrels or more
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Notice provided by Bryan Foust to Mike Bratcher, Rob Hamlet, Victoria Venegas, and Jim Griswold (NMOCD), and Ryan Mann (SLO) on 6/11/2019 by email	

Initial Response

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

☒ The source of the release has been stopped.
☒ The impacted area has been secured to protect human health and the environment.
☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.
☒ All free liquids and recoverable materials have been removed and managed appropriately.

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

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

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

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 6/25/2019

email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: Amalia Bustamante Date: 7/5/2019

Incident ID	NAB1918643207
District RP	2RP-5513
Facility ID	
Application ID	pAB19542951

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	51-100 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☒ Yes ☐ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: ***Each of the following items must be included in the report.***

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☒ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☒ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

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

State of New Mexico
Oil Conservation Division

Incident ID	NAB1918643207
District RP	2RP-5513
Facility ID	
Application ID	pAB19542951

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

Printed Name: Kyle Littrell Title: SH&E Coordinator

Signature: Date: 2/24/2020

email: Kyle_Littrell@xtoenergy.com Telephone: (432)-221-7331

OCD Only

Received by: Date:

Incident ID	NAB1918643207
District RP	2RP-5513
Facility ID	
Application ID	pAB19542951

Remediation Plan

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

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

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

☒ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.

☒ Extents of contamination must be fully delineated.

☒ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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

Printed Name: Kyle Littrell Title: SH&E Coordinator

Signature: Date: 2/24/2020

email: Kyle_Littrell@xtoenergy.com Telephone: (432)-221-7331

OCD Only

Received by: Date:

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

Signature: Date:

LT Environmental, Inc.
3300 North "A" Street
Building 1, Unit 222
Midland, Texas 79705
432.704.5178

February 24, 2020

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

RE: Deferral Request
Nash Unit #53 SWD
Remediation Permit Number 2RP-5513
Incident ID Number NAB1918643207
Eddy County, New Mexico

Dear Mr. Bratcher:

LT Environmental, Inc. (LTE), on behalf of XTO Energy, Inc. (XTO), presents the following Deferral Request detailing excavation activities at the Nash Unit #53 SWD (Site) in Unit H, Section 13, Township 23 South, Range 29 East, in Eddy County, New Mexico (Figure 1). The purpose of the remediation activities was to address impacts to soil following a release of crude oil and produced water into an engineered, clay-lined containment at the Site on June 11, 2019. XTO removed earthen material around active production equipment inside the containment above the clay liner where safely possible to hydrovaccum. The exposed liner was visually inspected for integrity. XTO is submitting this Deferral Request and requesting no further action for Remediation Permit (RP) Number 2RP-5513 until the Site is reconstructed, and associated site features are abandoned, and/or the Site is abandoned.

RELEASE BACKGROUND

On June 11, 2019, a power outage caused the saltwater disposal (SWD) programmable logic controller to fault. The gun barrels overflowed and released fluids to an engineered clay-lined containment. No fluids reached the well pad. An estimated 21.71 barrels (bbls) of crude oil and 98.89 bbls of produced water were released. Vacuum trucks were dispatched to the Site to recover free-standing fluids; an estimated 20 bbls of crude oil and 90 bbls of produced water were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 (Form C-141) on June 25, 2019 and was assigned RP Number 2RP-5513.

SITE CHARACTERIZATION

LTE characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code

(NMAC). Depth to groundwater at the Site is estimated to be between 51 and 100 feet below grade surface (bgs) based on the nearest water well data. The nearest permitted water well with reported depth to water data is United State Geological Survey well USGS 321742103552601, located approximately 2.62 miles southeast of the Site. The water well has a depth to groundwater of approximately 66 feet bgs. The total depth of the well is 100 feet bgs. Ground surface elevation at the water well location is 3,040 feet above mean seal level (AMSL), which is approximately 31 feet higher in elevation than the Site. The closest continuously flowing water or significant watercourse to the Site is a freshwater stream located approximately 968 feet to the east. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is less than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is located in a high potential karst area.

CLOSURE CRITERIA

Based on the results of the Site Characterization, the following NMOCD Table 1 Closure Criteria (Closure Criteria) apply:

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

LINER INSPECTION

Since the release was contained, LTE personnel visited the Site to inspect impacted material inside the containment and visually inspect the integrity of the clay liner. Surficial staining was observed within the earthen berm above the clay liner. LTE collected and field screened six preliminary soil assessment samples (SS01 through SS04, SS06, and SS08) in the release area from a depth of 0.5 feet bgs using hand-auger equipment decontaminated prior to and between sample points. Two other soil samples (SS05 and SS07) were collected outside of the lined earthen containment to address other reported historical releases, which are included on a Compliance Agreement between XTO and the NMOCD and will be addressed under separate cover. The historical releases, 2RP-4220 and 2RP-4831, are located on the same well pad, outside of the containment. Photographic documentation was conducted during the site visit and inspection of the clay liner and are included in Attachment 1.

Soil samples were field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positing System (GPS) unit and are depicted on Figure 2. All soil samples were placed directly into

pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were shipped at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Xenco Laboratories (Xenco) in Midland, Texas, for analysis of BTEX following United States Environmental Protection Agency (USEPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following USEPA Method 8015M/D; and chloride following USEPA Method 300.0.

Soil sampling results indicated earthen material above the clay liner contained TPH and chloride concentrations exceeding NMOCD Closure Criteria. The laboratory analytical results are presented on Table 1 and the complete laboratory analytical reports are included as Attachment 2.

Based on visible staining in the release area and field screening results remediation of the soil within the lined-earthen containment appeared to be warranted for the release footprint.

EXCAVATION ACTIVITIES AND LINER INSPECTION

From September 10 through October 24, 2019 LTE oversaw the excavation of impacted soil within the earthen containment as indicated by visual observations, field screening results, and/or preliminary sampling results. Where possible between active production equipment, earthen material above the engineered clay liner was excavated with a hydrovacuum to expose the clay liner. The clay liner was then visually inspected for integrity by a person familiar with liner construction and production equipment. The locations of final excavation extents are presented on Figure 3.

The final excavation extents on Site measured an estimated 2,065 square feet in area; the eastern excavation within the earthen berm is an estimated 2,020 square feet; the western excavations within the berm total an estimated 940 square feet. An estimated 115 cubic yards of impacted soil were removed during excavation. The impacted soil was transported and properly disposed of at R360 located in Carlsbad, New Mexico.

To preserve the integrity of the liner, no confirmation samples were collected in the excavated areas. Instead, the liner was inspected to ensure it was not compromised or damaged. Visual observations indicate the clay liner was not damaged. An inspection of the exposed liner was completed, and photos of the excavation and clay liner are included in the attached photo log.

DEFERRAL REQUEST

A total of approximately 115 cubic yards of impacted earthen material inside the containment were removed from above the engineered clay liner; however, residual impacted soil was left in place for compliance with the XTO safety policy regarding earth moving activities within two feet

of active pipelines or utility lines and active production equipment. Where the clay liner was inspected, no damage was observed. No samples were collected from the clay liner to avoid potential damage.

XTO requests permission to complete remediation during any future major construction, alteration or final abandonment, whichever occurs first. LTE and XTO do not believe deferment and/or a variance will result in an imminent risk to human health, the environment, or groundwater. No saturated soil remains in place and mass source removal has occurred. Remaining impact is contained by the inspected clay liner and earthen berm, which appears to be intact and undamaged.

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

Sincerely,

LT ENVIRONMENTAL, INC.

Tacoma Morrissey
Staff Geologist

Ashley L. Ager, P.G.
Senior Geologist

cc: Kyle Littrell, XTO
Robert Hamlet, NMOCD
Victoria Venegas, NMOCD

Attachments:

Figure 1	Site Location Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Excavation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Photographic Log
Attachment 2	Laboratory Analytical Reports

FIGURES

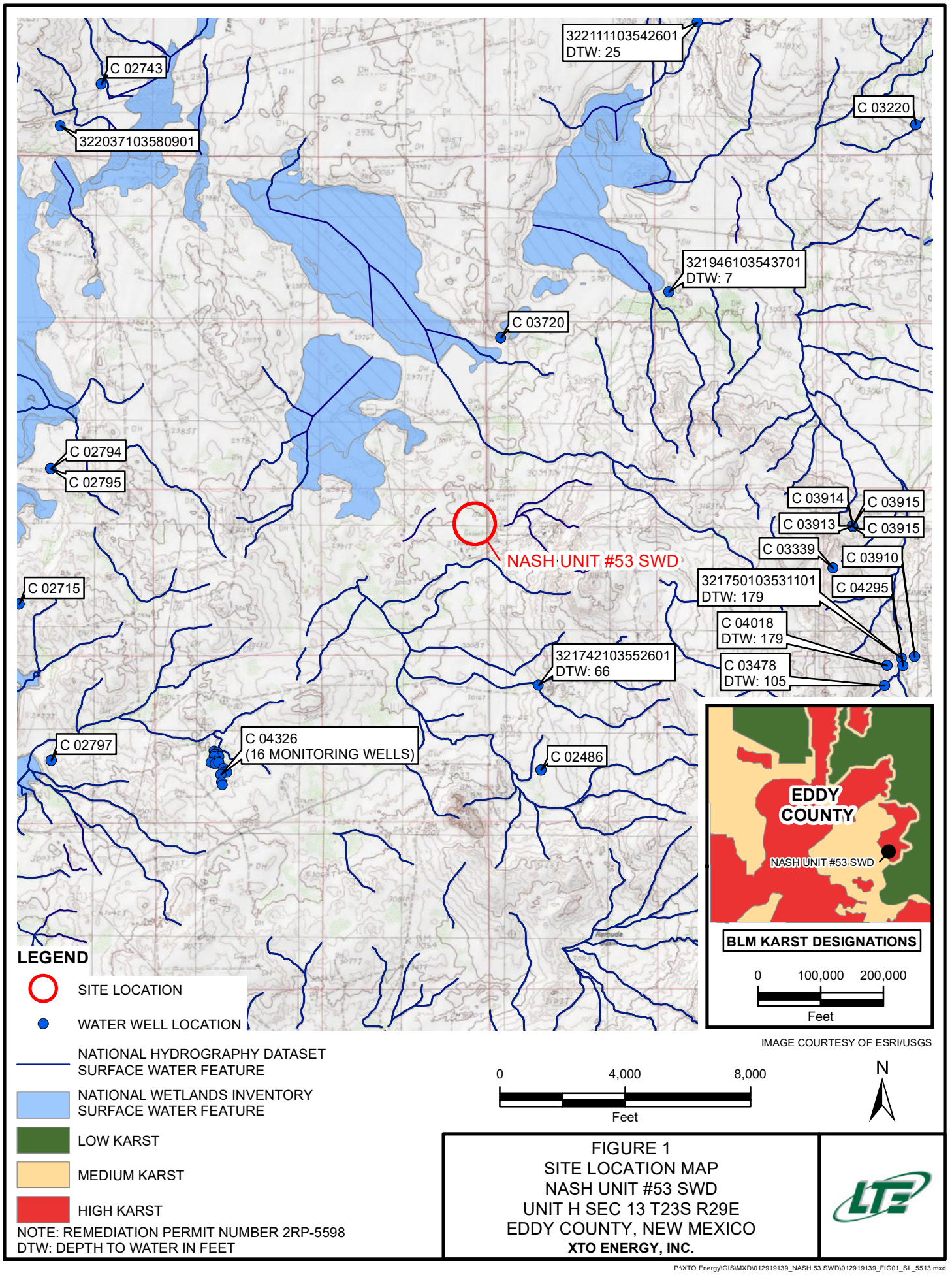
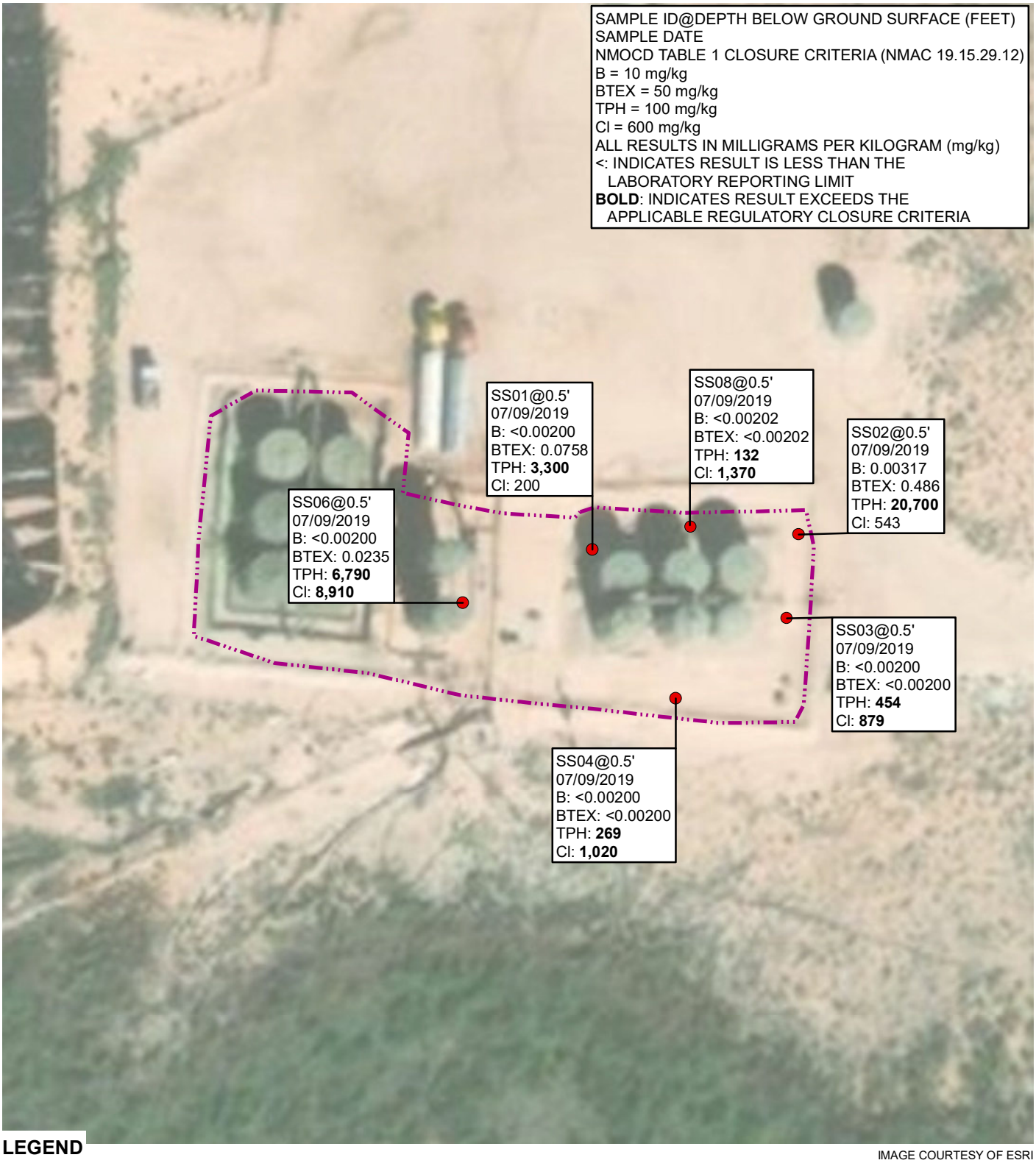


FIGURE 1
SITE LOCATION MAP
NASH UNIT #53 SWD
UNIT H SEC 13 T23S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919139_NASH 53 SWD\012919139_FIG01_SL_5513.mxd



LEGEND

PRELIMINARY SOIL SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE CLOSURE CRITERIA

RELEASE EXTENT

0 60 120
Feet

N

B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: REMEDIATION PERMIT NUMBER 2RP-5513

FIGURE 2
PRELIMINARY SOIL SAMPLE LOCATIONS
NASH UNIT #53 SWD
UNIT H SEC 13 T23S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012919139_NASH 53 SWD\012919139_FIG02_PRELIMINARY_5513.mxd

IMAGE COURTESY OF ESRI

LEGEND

RELEASE LOCATION

EXCAVATION EXTENT

0 60 120

Feet

N

FIGURE 3
EXCAVATION EXTENTS
NASH UNIT #53 SWD
UNIT H SEC 13 T23S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

NOTE: REMEDIATION PERMIT NUMBER 2RP-5513

P:\XTO Energy\GIS\MXD\012919139_NASH 53 SWD\012919139_FIG03_EXCAVATION_5513.mxd

TABLES

TABLE 1
SOIL ANALYTICAL RESULTS

NASH UNIT #53 SWD
REMEDIATION PERMIT NUMBER 2RP-5513
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

Sample Name	Sample Depth (feet bgs)	Sample Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
SS01	0.5	07/09/2019	<0.00200	0.00237	0.00902	0.0644	0.0758	53.9	2,920	323	2,970	**3,300**	200
SS02	0.5	07/09/2019	0.00317	0.0497	0.0472	0.386	0.486	897	18,300	1,550	19,200	**20,700**	543
SS03	0.5	07/09/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	298	156	298	**454**	**879**
SS04	0.5	07/09/2019	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<15.0	199	69.8	199	**269**	**1,020**
SS06	0.5	07/09/2019	<0.00200	0.00260	<0.00200	0.0209	0.0235	122	6,050	620	6,170	**6,790**	**8,910**
SS08	0.5	07/09/2019	<0.00202	<0.00202	<0.00202	<0.00202	<0.00202	<15.0	75.5	56.0	75.5	**132**	**1,370**
NMOCD Table 1 Closure Criteria			**10**	NE	NE	NE	**50**	NE	NE	NE	NE	**100**	**600**

Notes:

bgs - below ground surface
BTEX - benzene, toluene, ethylbenzene, and total xylenes
DRO - diesel range organics
GRO - gasoline range organics
mg/kg - milligrams per kilogram
MRO - motor oil range organics
NMAC - New Mexico Administrative Code
NMOCD - New Mexico Oil Conservation Division
NE - not established
TPH - total petroleum hydrocarbons
Bold - indicates result exceeds the applicable regulatory standard
< - indicates result is below laboratory reporting limits
Table 1 - closure criteria for soils impacted by a release per NMAC 19.15.29 August 2018

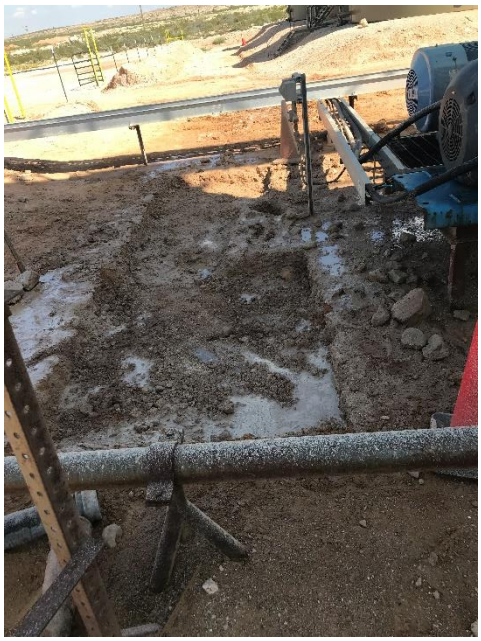
ATTACHMENT 1: PHOTOGRAPHIC LOG

View of the surficial staining on the northern side of the containment facing west.

Engineered clay liner at the base of the containment.

Project: 012919139	XTO Energy, Inc. Nash Unit #53 SWD (2RP-5513)	Advancing Opportunity
July 9, 2019	Photographic Log	

View of the excavation down to the exposed clay liner.



View of the excavation down to the exposed clay liner.

Project: 012919139	XTO Energy, Inc. Nash Unit #53 SWD (2RP-5513)	LTE Advancing Opportunity
July 9, 2019	Photographic Log	

ATTACHMENT 2: LABORATORY ANALTYICAL RESULTS

Analytical Report 630590

for

LT Environmental, Inc.

Project Manager: Dan Moir

Nash Unit #53 SWD

012919139

17-JUL-19

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

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

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

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

17-JUL-19

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

Reference: XENCO Report No(s): **630590**
Nash Unit #53 SWD
Project Address: Eddy County

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 630590. 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. 630590 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 630590

LT Environmental, Inc., Arvada, CO

Nash Unit #53 SWD

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	07-09-19 09:20	0.5 ft	630590-001
SS02	S	07-09-19 09:24	0.5 ft	630590-002
SS03	S	07-09-19 09:46	0.5 ft	630590-003
SS04	S	07-09-19 09:49	0.5 ft	630590-004
SS05	S	07-09-19 10:11	0.5 ft	630590-005
SS06	S	07-09-19 10:36	0.5 ft	630590-006
SS07	S	07-09-19 11:21	0.5 ft	630590-007
SS08	S	07-09-19 11:41	0.5 ft	630590-008

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: Nash Unit #53 SWD

Project ID: *012919139*
Work Order Number(s): *630590*

Report Date: *17-JUL-19*
Date Received: *07/11/2019*

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3095558 BTEX by EPA 8021B
Soil samples were not received in Terracore kits and therefore were prepared by method 5030.
Surrogate 4-Bromofluorobenzene recovered above QC limits. Matrix interferences is suspected; data confirmed by re-analysis.
Samples affected are: 630494-005 S,630590-002,630590-001.

Certificate of Analysis Summary 630590

LT Environmental, Inc., Arvada, CO

Project Name: Nash Unit #53 SWD

Project Id: 012919139
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Thu Jul-11-19 12:43 pm
Report Date: 17-JUL-19
Project Manager: Jessica Kramer

Analysis Requested		630590-001		630590-002		630590-003		630590-004		630590-005		630590-006	
	Field Id:	SS01		SS02		SS03		SS04		SS05		SS06	
	Depth:	0.5- ft		0.5- ft		0.5- ft		0.5- ft		0.5- ft		0.5- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	Jul-09-19 09:20		Jul-09-19 09:24		Jul-09-19 09:46		Jul-09-19 09:49		Jul-09-19 10:11		Jul-09-19 10:36	
BTEX by EPA 8021B SUB: T104704400-18-16	*Extracted:*	Jul-15-19 13:42		Jul-15-19 13:42		Jul-15-19 13:42		Jul-15-19 13:42		Jul-15-19 13:42		Jul-15-19 13:42	
	Analyzed:	Jul-16-19 06:16		Jul-16-19 06:38		Jul-16-19 07:00		Jul-16-19 07:22		Jul-16-19 07:44		Jul-16-19 08:06	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	0.00317	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
Toluene		0.00237	0.00200	0.0497	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	0.00260	0.00200
Ethylbenzene		0.00902	0.00200	0.0472	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200
m,p-Xylenes		0.0411	0.00400	0.251	0.00402	<0.00399	0.00399	<0.00400	0.00400	<0.00398	0.00398	0.0131	0.00401
o-Xylene		0.0233	0.00200	0.135	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	0.00779	0.00200
Total Xylenes		0.0644	0.00200	0.386	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	0.0209	0.00200
Total BTEX		0.0758	0.00200	0.486	0.00201	<0.00200	0.00200	<0.00200	0.00200	<0.00199	0.00199	0.0235	0.00200
Chloride by EPA 300 SUB: T104704400-18-16	*Extracted:*	Jul-15-19 11:15		Jul-15-19 11:15		Jul-15-19 11:15		Jul-15-19 11:15		Jul-15-19 11:30		Jul-15-19 11:30	
	Analyzed:	Jul-15-19 21:06		Jul-15-19 21:13		Jul-15-19 21:20		Jul-15-19 21:27		Jul-15-19 22:42		Jul-15-19 22:49	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		200	5.01	543	25.2	879	25.2	1020	49.8	17.5	4.99	8910	49.6
TPH by SW8015 Mod SUB: T104704400-18-16	*Extracted:*	Jul-16-19 14:00		Jul-16-19 14:00		Jul-16-19 14:00		Jul-16-19 14:00		Jul-16-19 14:00		Jul-16-19 14:00	
	Analyzed:	Jul-17-19 03:21		Jul-17-19 06:52		Jul-17-19 04:08		Jul-17-19 04:31		Jul-17-19 04:55		Jul-17-19 07:17	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		53.9	15.0	897	74.9	<15.0	15.0	<15.0	15.0	<15.0	15.0	122	74.7
Diesel Range Organics (DRO)		2920	15.0	18300	74.9	298	15.0	199	15.0	<15.0	15.0	6050	74.7
Motor Oil Range Hydrocarbons (MRO)		323	15.0	1550	74.9	156	15.0	69.8	15.0	<15.0	15.0	620	74.7
Total TPH		3300	15.0	20700	74.9	454	15.0	269	15.0	<15.0	15.0	6790	74.7
Total GRO-DRO		2970	15.0	19200	74.9	298	15.0	199	15.0	<15.0	15.0	6170	74.7

Jessica Kramer
Project Assistant

Certificate of Analysis Summary 630590

LT Environmental, Inc., Arvada, CO

Project Name: Nash Unit #53 SWD

Project Id: 012919139
Contact: Dan Moir
Project Location: Eddy County

Date Received in Lab: Thu Jul-11-19 12:43 pm
Report Date: 17-JUL-19
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	630590-007		630590-008									
	Field Id:	SS07		SS08									
	Depth:	0.5- ft		0.5- ft									
	Matrix:	SOIL		SOIL									
	Sampled:	Jul-09-19 11:21		Jul-09-19 11:41									
BTEX by EPA 8021B SUB: T104704400-18-16	***Extracted:***	Jul-15-19 13:42		Jul-15-19 13:42									
	Analyzed:	Jul-16-19 08:28		Jul-16-19 08:50									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Benzene		<0.00199	0.00199	<0.00202	0.00202								
Toluene		<0.00199	0.00199	<0.00202	0.00202								
Ethylbenzene		<0.00199	0.00199	<0.00202	0.00202								
m,p-Xylenes		<0.00398	0.00398	<0.00403	0.00403								
o-Xylene		<0.00199	0.00199	<0.00202	0.00202								
Total Xylenes		<0.00199	0.00199	<0.00202	0.00202								
Total BTEX		<0.00199	0.00199	<0.00202	0.00202								
Chloride by EPA 300 SUB: T104704400-18-16	***Extracted:***	Jul-15-19 11:30		Jul-15-19 11:30									
	Analyzed:	Jul-15-19 22:57		Jul-15-19 23:04									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Chloride		15000	250	1370	25.2								
TPH by SW8015 Mod SUB: T104704400-18-16	***Extracted:***	Jul-16-19 14:00		Jul-16-19 14:00									
	Analyzed:	Jul-17-19 05:41		Jul-17-19 06:04									
	Units/RL:	mg/kg	RL	mg/kg	RL								
Gasoline Range Hydrocarbons (GRO)		<15.0	15.0	<15.0	15.0								
Diesel Range Organics (DRO)		123	15.0	75.5	15.0								
Motor Oil Range Hydrocarbons (MRO)		72.3	15.0	56.0	15.0								
Total TPH		195	15.0	132	15.0								
Total GRO-DRO		123	15.0	75.5	15.0								

Jessica Kramer
Project Assistant

Certificate of Analytical Results 630590

LT Environmental, Inc., Arvada, CO

Nash Unit #53 SWD

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	07.11.19 12.43
Lab Sample Id:	630590-001	Date Collected:	07.09.19 09.20	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.15.19 11.15	Basis:	Wet Weight
Seq Number:	3095517			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**200**	5.01	mg/kg	07.15.19 21.06		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.16.19 14.00	Basis:	Wet Weight
Seq Number:	3095592			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**53.9**	15.0	mg/kg	07.17.19 03.21		1
Diesel Range Organics (DRO)	C10C28DRO	**2920**	15.0	mg/kg	07.17.19 03.21		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**323**	15.0	mg/kg	07.17.19 03.21		1
Total TPH	PHC635	**3300**	15.0	mg/kg	07.17.19 03.21		1
Total GRO-DRO	PHC628	**2970**	15.0	mg/kg	07.17.19 03.21		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	89	%	70-135	07.17.19 03.21	
o-Terphenyl	84-15-1	123	%	70-135	07.17.19 03.21	

Certificate of Analytical Results 630590

LT Environmental, Inc., Arvada, CO

Nash Unit #53 SWD

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	07.11.19 12.43
Lab Sample Id:	630590-001	Date Collected:	07.09.19 09.20	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	FOV	Date Prep:	07.15.19 13.42	Basis:	Wet Weight
Seq Number:	3095558			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.16.19 06.16	U	1
Toluene	108-88-3	**0.00237**	0.00200	mg/kg	07.16.19 06.16		1
Ethylbenzene	100-41-4	**0.00902**	0.00200	mg/kg	07.16.19 06.16		1
m,p-Xylenes	179601-23-1	**0.0411**	0.00400	mg/kg	07.16.19 06.16		1
o-Xylene	95-47-6	**0.0233**	0.00200	mg/kg	07.16.19 06.16		1
Total Xylenes	1330-20-7	**0.0644**	0.00200	mg/kg	07.16.19 06.16		1
Total BTEX		**0.0758**	0.00200	mg/kg	07.16.19 06.16		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	92	%	70-130	07.16.19 06.16	
4-Bromofluorobenzene	460-00-4	174	%	70-130	07.16.19 06.16	**

Certificate of Analytical Results 630590

LT Environmental, Inc., Arvada, CO

Nash Unit #53 SWD

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	07.11.19 12.43
Lab Sample Id:	630590-002	Date Collected:	07.09.19 09.24	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.15.19 11.15	Basis:	Wet Weight
Seq Number:	3095517			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**543**	25.2	mg/kg	07.15.19 21.13		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.16.19 14.00	Basis:	Wet Weight
Seq Number:	3095592			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**897**	74.9	mg/kg	07.17.19 06.52		5
Diesel Range Organics (DRO)	C10C28DRO	**18300**	74.9	mg/kg	07.17.19 06.52		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**1550**	74.9	mg/kg	07.17.19 06.52		5
Total TPH	PHC635	**20700**	74.9	mg/kg	07.17.19 06.52		5
Total GRO-DRO	PHC628	**19200**	74.9	mg/kg	07.17.19 06.52		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	07.17.19 06.52	
o-Terphenyl	84-15-1	81	%	70-135	07.17.19 06.52	

Certificate of Analytical Results 630590

LT Environmental, Inc., Arvada, CO

Nash Unit #53 SWD

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	07.11.19 12.43
Lab Sample Id:	630590-002	Date Collected:	07.09.19 09.24	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	FOV	Date Prep:	07.15.19 13.42	Basis:	Wet Weight
Seq Number:	3095558			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	**0.00317**	0.00201	mg/kg	07.16.19 06.38		1
Toluene	108-88-3	**0.0497**	0.00201	mg/kg	07.16.19 06.38		1
Ethylbenzene	100-41-4	**0.0472**	0.00201	mg/kg	07.16.19 06.38		1
m,p-Xylenes	179601-23-1	**0.251**	0.00402	mg/kg	07.16.19 06.38		1
o-Xylene	95-47-6	**0.135**	0.00201	mg/kg	07.16.19 06.38		1
Total Xylenes	1330-20-7	**0.386**	0.00201	mg/kg	07.16.19 06.38		1
Total BTEX		**0.486**	0.00201	mg/kg	07.16.19 06.38		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	07.16.19 06.38	
4-Bromofluorobenzene	460-00-4	232	%	70-130	07.16.19 06.38	**

Certificate of Analytical Results 630590

LT Environmental, Inc., Arvada, CO

Nash Unit #53 SWD

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	07.11.19 12.43
Lab Sample Id:	630590-003	Date Collected:	07.09.19 09.46	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.15.19 11.15	Basis:	Wet Weight
Seq Number:	3095517			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**879**	25.2	mg/kg	07.15.19 21.20		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.16.19 14.00	Basis:	Wet Weight
Seq Number:	3095592			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.17.19 04.08	U	1
Diesel Range Organics (DRO)	C10C28DRO	**298**	15.0	mg/kg	07.17.19 04.08		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**156**	15.0	mg/kg	07.17.19 04.08		1
Total TPH	PHC635	**454**	15.0	mg/kg	07.17.19 04.08		1
Total GRO-DRO	PHC628	**298**	15.0	mg/kg	07.17.19 04.08		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-135	07.17.19 04.08	
o-Terphenyl	84-15-1	87	%	70-135	07.17.19 04.08	

Certificate of Analytical Results 630590

LT Environmental, Inc., Arvada, CO

Nash Unit #53 SWD

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	07.11.19 12.43
Lab Sample Id:	630590-003	Date Collected:	07.09.19 09.46	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	FOV	Date Prep:	07.15.19 13.42	Basis:	Wet Weight
Seq Number:	3095558			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.16.19 07.00	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.16.19 07.00	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.16.19 07.00	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.16.19 07.00	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.16.19 07.00	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.16.19 07.00	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.16.19 07.00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	07.16.19 07.00	
4-Bromofluorobenzene	460-00-4	118	%	70-130	07.16.19 07.00	

Certificate of Analytical Results 630590

LT Environmental, Inc., Arvada, CO

Nash Unit #53 SWD

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	07.11.19 12.43
Lab Sample Id:	630590-004	Date Collected:	07.09.19 09.49	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.15.19 11.15	Basis:	Wet Weight
Seq Number:	3095517			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1020**	49.8	mg/kg	07.15.19 21.27		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.16.19 14.00	Basis:	Wet Weight
Seq Number:	3095592			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.17.19 04.31	U	1
Diesel Range Organics (DRO)	C10C28DRO	**199**	15.0	mg/kg	07.17.19 04.31		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**69.8**	15.0	mg/kg	07.17.19 04.31		1
Total TPH	PHC635	**269**	15.0	mg/kg	07.17.19 04.31		1
Total GRO-DRO	PHC628	**199**	15.0	mg/kg	07.17.19 04.31		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	07.17.19 04.31	
o-Terphenyl	84-15-1	85	%	70-135	07.17.19 04.31	

Certificate of Analytical Results 630590

LT Environmental, Inc., Arvada, CO

Nash Unit #53 SWD

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	07.11.19 12.43
Lab Sample Id:	630590-004	Date Collected:	07.09.19 09.49	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	FOV	Date Prep:	07.15.19 13.42	Basis:	Wet Weight
Seq Number:	3095558			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.16.19 07.22	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.16.19 07.22	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.16.19 07.22	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.16.19 07.22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.16.19 07.22	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.16.19 07.22	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.16.19 07.22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	97	%	70-130	07.16.19 07.22	
4-Bromofluorobenzene	460-00-4	114	%	70-130	07.16.19 07.22	

Certificate of Analytical Results 630590

LT Environmental, Inc., Arvada, CO

Nash Unit #53 SWD

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	07.11.19 12.43
Lab Sample Id:	630590-005	Date Collected:	07.09.19 10.11	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.15.19 11.30	Basis:	Wet Weight
Seq Number:	3095419			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**17.5**	4.99	mg/kg	07.15.19 22.42		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.16.19 14.00	Basis:	Wet Weight
Seq Number:	3095592			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.17.19 04.55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<15.0	15.0	mg/kg	07.17.19 04.55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<15.0	15.0	mg/kg	07.17.19 04.55	U	1
Total TPH	PHC635	<15.0	15.0	mg/kg	07.17.19 04.55	U	1
Total GRO-DRO	PHC628	<15.0	15.0	mg/kg	07.17.19 04.55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	94	%	70-135	07.17.19 04.55	
o-Terphenyl	84-15-1	85	%	70-135	07.17.19 04.55	

Certificate of Analytical Results 630590

LT Environmental, Inc., Arvada, CO

Nash Unit #53 SWD

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	07.11.19 12.43
Lab Sample Id:	630590-005	Date Collected:	07.09.19 10.11	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	FOV	Date Prep:	07.15.19 13.42	Basis:	Wet Weight
Seq Number:	3095558			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.16.19 07.44	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.16.19 07.44	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.16.19 07.44	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.16.19 07.44	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.16.19 07.44	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.16.19 07.44	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.16.19 07.44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	123	%	70-130	07.16.19 07.44	
1,4-Difluorobenzene	540-36-3	101	%	70-130	07.16.19 07.44	

Certificate of Analytical Results 630590

LT Environmental, Inc., Arvada, CO

Nash Unit #53 SWD

Sample Id:	**SS06**	Matrix:	Soil	Date Received:	07.11.19 12.43
Lab Sample Id:	630590-006	Date Collected:	07.09.19 10.36	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.15.19 11.30	Basis:	Wet Weight
Seq Number:	3095419			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**8910**	49.6	mg/kg	07.15.19 22.49		10

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.16.19 14.00	Basis:	Wet Weight
Seq Number:	3095592			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**122**	74.7	mg/kg	07.17.19 07.17		5
Diesel Range Organics (DRO)	C10C28DRO	**6050**	74.7	mg/kg	07.17.19 07.17		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**620**	74.7	mg/kg	07.17.19 07.17		5
Total TPH	PHC635	**6790**	74.7	mg/kg	07.17.19 07.17		5
Total GRO-DRO	PHC628	**6170**	74.7	mg/kg	07.17.19 07.17		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	87	%	70-135	07.17.19 07.17	
o-Terphenyl	84-15-1	122	%	70-135	07.17.19 07.17	

Certificate of Analytical Results 630590

LT Environmental, Inc., Arvada, CO

Nash Unit #53 SWD

Sample Id:	**SS06**	Matrix:	Soil	Date Received:	07.11.19 12.43
Lab Sample Id:	630590-006	Date Collected:	07.09.19 10.36	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	FOV	Date Prep:	07.15.19 13.42	Basis:	Wet Weight
Seq Number:	3095558			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.16.19 08.06	U	1
Toluene	108-88-3	**0.00260**	0.00200	mg/kg	07.16.19 08.06		1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.16.19 08.06	U	1
m,p-Xylenes	179601-23-1	**0.0131**	0.00401	mg/kg	07.16.19 08.06		1
o-Xylene	95-47-6	**0.00779**	0.00200	mg/kg	07.16.19 08.06		1
Total Xylenes	1330-20-7	**0.0209**	0.00200	mg/kg	07.16.19 08.06		1
Total BTEX		**0.0235**	0.00200	mg/kg	07.16.19 08.06		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	91	%	70-130	07.16.19 08.06	
4-Bromofluorobenzene	460-00-4	130	%	70-130	07.16.19 08.06	

Certificate of Analytical Results 630590

LT Environmental, Inc., Arvada, CO

Nash Unit #53 SWD

Sample Id:	**SS07**	Matrix:	Soil	Date Received:	07.11.19 12.43
Lab Sample Id:	630590-007	Date Collected:	07.09.19 11.21	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.15.19 11.30	Basis:	Wet Weight
Seq Number:	3095419			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**15000**	250	mg/kg	07.15.19 22.57		50

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.16.19 14.00	Basis:	Wet Weight
Seq Number:	3095592			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.17.19 05.41	U	1
Diesel Range Organics (DRO)	C10C28DRO	**123**	15.0	mg/kg	07.17.19 05.41		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**72.3**	15.0	mg/kg	07.17.19 05.41		1
Total TPH	PHC635	**195**	15.0	mg/kg	07.17.19 05.41		1
Total GRO-DRO	PHC628	**123**	15.0	mg/kg	07.17.19 05.41		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	92	%	70-135	07.17.19 05.41	
o-Terphenyl	84-15-1	94	%	70-135	07.17.19 05.41	

Certificate of Analytical Results 630590

LT Environmental, Inc., Arvada, CO

Nash Unit #53 SWD

Sample Id:	**SS07**	Matrix:	Soil	Date Received:	07.11.19 12.43
Lab Sample Id:	630590-007	Date Collected:	07.09.19 11.21	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	FOV	Date Prep:	07.15.19 13.42	Basis:	Wet Weight
Seq Number:	3095558			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.16.19 08.28	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.16.19 08.28	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.16.19 08.28	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.16.19 08.28	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.16.19 08.28	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.16.19 08.28	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.16.19 08.28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	70-130	07.16.19 08.28	
1,4-Difluorobenzene	540-36-3	94	%	70-130	07.16.19 08.28	

Certificate of Analytical Results 630590

LT Environmental, Inc., Arvada, CO

Nash Unit #53 SWD

Sample Id:	**SS08**	Matrix:	Soil	Date Received:	07.11.19 12.43
Lab Sample Id:	630590-008	Date Collected:	07.09.19 11.41	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	CHE			% Moisture:	
Analyst:	CHE	Date Prep:	07.15.19 11.30	Basis:	Wet Weight
Seq Number:	3095419			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1370**	25.2	mg/kg	07.15.19 23.04		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	TX1005P
Tech:	DVM			% Moisture:	
Analyst:	ARM	Date Prep:	07.16.19 14.00	Basis:	Wet Weight
Seq Number:	3095592			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<15.0	15.0	mg/kg	07.17.19 06.04	U	1
Diesel Range Organics (DRO)	C10C28DRO	**75.5**	15.0	mg/kg	07.17.19 06.04		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**56.0**	15.0	mg/kg	07.17.19 06.04		1
Total TPH	PHC635	**132**	15.0	mg/kg	07.17.19 06.04		1
Total GRO-DRO	PHC628	**75.5**	15.0	mg/kg	07.17.19 06.04		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	07.17.19 06.04	
o-Terphenyl	84-15-1	90	%	70-135	07.17.19 06.04	

Certificate of Analytical Results 630590

LT Environmental, Inc., Arvada, CO

Nash Unit #53 SWD

Sample Id:	**SS08**	Matrix:	Soil	Date Received:	07.11.19 12.43
Lab Sample Id:	630590-008	Date Collected:	07.09.19 11.41	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5030B
Tech:	ALG			% Moisture:	
Analyst:	FOV	Date Prep:	07.15.19 13.42	Basis:	Wet Weight
Seq Number:	3095558			SUB:	T104704400-18-16

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.16.19 08.50	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.16.19 08.50	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.16.19 08.50	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	07.16.19 08.50	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.16.19 08.50	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.16.19 08.50	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.16.19 08.50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	106	%	70-130	07.16.19 08.50	
1,4-Difluorobenzene	540-36-3	98	%	70-130	07.16.19 08.50	

Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit.

RL Reporting Limit

MDL Method Detection 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 630590

LT Environmental, Inc.

Nash Unit #53 SWD

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3095517 Matrix: Solid Date Prep: 07.15.19
MB Sample Id: 7682026-1-BLK LCS Sample Id: 7682026-1-BKS LCSD Sample Id: 7682026-1-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	241	96	241	96	90-110	0	20	mg/kg	07.15.19 17:57	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3095419 Matrix: Solid Date Prep: 07.15.19
MB Sample Id: 7682027-1-BLK LCS Sample Id: 7682027-1-BKS LCSD Sample Id: 7682027-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<0.858	250	240	96	240	96	90-110	0	20	mg/kg	07.15.19 21:56	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3095517 Matrix: Soil Date Prep: 07.15.19
Parent Sample Id: 630733-004 MS Sample Id: 630733-004 S MSD Sample Id: 630733-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	0.993	250	281	112	281	112	90-110	0	20	mg/kg	07.15.19 18:19	X

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3095517 Matrix: Soil Date Prep: 07.15.19
Parent Sample Id: 630733-009 MS Sample Id: 630733-009 S MSD Sample Id: 630733-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	262	251	502	96	501	95	90-110	0	20	mg/kg	07.15.19 20:00	

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3095419 Matrix: Soil Date Prep: 07.15.19
Parent Sample Id: 630601-001 MS Sample Id: 630601-001 S MSD Sample Id: 630601-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	38.8	252	284	97	285	98	90-110	0	20	mg/kg	07.15.19 22:28	

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 630590

LT Environmental, Inc.

Nash Unit #53 SWD

Analytical Method: **Chloride by EPA 300** Prep Method: E300P
Seq Number: 3095419 Matrix: Soil Date Prep: 07.15.19
Parent Sample Id: 630601-006 MS Sample Id: 630601-006 S MSD Sample Id: 630601-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	0.943	248	249	100	250	100	90-110	0	20	mg/kg	07.16.19 00:09	

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3095592 Matrix: Solid Date Prep: 07.16.19
MB Sample Id: 7682150-1-BLK LCS Sample Id: 7682150-1-BKS LCSD Sample Id: 7682150-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<8.00	1000	964	96	877	88	70-135	9	20	mg/kg	07.16.19 21:01	
Diesel Range Organics (DRO)	<8.13	1000	1040	104	966	97	70-135	7	20	mg/kg	07.16.19 21:01	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	94		91		82		70-135	%	07.16.19 21:01
o-Terphenyl	112		110		106		70-135	%	07.16.19 21:01

Analytical Method: **TPH by SW8015 Mod** Prep Method: TX1005P
Seq Number: 3095592 Matrix: Soil Date Prep: 07.16.19
Parent Sample Id: 630738-001 MS Sample Id: 630738-001 S MSD Sample Id: 630738-001 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)	<7.99	998	959	96	939	94	70-135	2	20	mg/kg	07.16.19 22:13	
Diesel Range Organics (DRO)	11.6	998	1080	107	1020	101	70-135	6	20	mg/kg	07.16.19 22:13	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	86		84		70-135	%	07.16.19 22:13
o-Terphenyl	97		101		70-135	%	07.16.19 22:13

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 630590

LT Environmental, Inc.

Nash Unit #53 SWD

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3095558 Matrix: Solid Date Prep: 07.15.19

MB Sample Id: 7682046-1-BLK LCS Sample Id: 7682046-1-BKS LCSD Sample Id: 7682046-1-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	0.0871	87	0.0967	97	70-130	10	35	mg/kg	07.16.19 08:21	
Toluene	<0.00200	0.100	0.0863	86	0.0914	91	70-130	6	35	mg/kg	07.16.19 08:21	
Ethylbenzene	<0.00200	0.100	0.0962	96	0.0999	100	70-130	4	35	mg/kg	07.16.19 08:21	
m,p-Xylenes	<0.00400	0.200	0.193	97	0.202	101	70-130	5	35	mg/kg	07.16.19 08:21	
o-Xylene	<0.00200	0.100	0.0925	93	0.0983	98	70-130	6	35	mg/kg	07.16.19 08:21	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	91		94		97		70-130	%	07.16.19 08:21
4-Bromofluorobenzene	99		105		116		70-130	%	07.16.19 08:21

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5030B

Seq Number: 3095558 Matrix: Sludge Date Prep: 07.15.19

Parent Sample Id: 630494-005 MS Sample Id: 630494-005 S MSD Sample Id: 630494-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	0.000620	0.100	0.0612	61	0.0612	61	70-130	0	35	mg/kg	07.16.19 12:49	X
Toluene	0.0113	0.100	0.0671	56	0.0606	49	70-130	10	35	mg/kg	07.16.19 12:49	X
Ethylbenzene	0.0107	0.100	0.0655	55	0.0545	44	70-130	18	35	mg/kg	07.16.19 12:49	X
m,p-Xylenes	0.0261	0.201	0.183	78	0.138	56	70-130	28	35	mg/kg	07.16.19 12:49	X
o-Xylene	0.0119	0.100	0.0583	46	0.0421	30	70-130	32	35	mg/kg	07.16.19 12:49	X

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	89		92		70-130	%	07.16.19 12:49
4-Bromofluorobenzene	142	**	126		70-130	%	07.16.19 12:49

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

XENCO LABORATORIES

Chain of Custody

Work Order No: 630590

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432) 704-5440 EL Paso,TX (915) 585-3443 Lubbock,TX (806) 794-1296 Crasbad, NM (432) 704-5440
Phoenix,AZ (480) 355-0900 Atlanta,GA (770) 449-8800 Tampa,FL (813) 620-2000 West Palm Beach, FL (561) 689-6701 www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental	Company Name:	XTO Energy
Address:	3300 N-A Street	Address:	3104 E Greene St
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432/236-3849	Email:	fsmith@ltenv.com

Work Order Comments

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

Project Name:	Nash unit #53 SWD	Turn Around	
Project Number:	012919139	Routine	☑
Project Location	Eddy county	Rush:	
Sampler's Name:	Fatima Smith	Due Date:	
PO #:	2RP-5513	Quote #:	

SAMPLE RECEIPT

Temp Blank:	Yes (No)	Wet Ice:	(Yes) No
Temperature (°C):	2.8	Thermometer ID	T-NM-007
Received Intact:	(Yes) No	Correction Factor:	-0.2
Cooler Custody Seals:	Yes (No) N/A	Total Containers:	8
Sample Custody Seals:	Yes (No) N/A		

Preservative Codes

MeOH: Me
None: NO
HNO3: HN
H2S04: H2
HCL: HL
NaOH: Na
Zn Acetate+ NaOH: Zn

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

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Pres. Code	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)	Sample Comments
	SS01	S	7/9/19	0920	0.5'	1		X	X	X	
	SS02			0924		1		X	X	X	
	SS03			0946		1		X	X	X	
	SS04			0949		1		X	X	X	
	SS05			1011		1		X	X	X	
	SS06			1036		1		X	X	X	
	SS07			1121		1		X	X	X	
	SS08			1141		1		X	X	X	

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		07/11/19 @ 1240	2		7/11/19 12:48
			4		
			6		

Revised Date 022619 Rev. 2019.1

Inter-Office Shipment

IOS Number **43260**

Date/Time: 07/11/19 14:27
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 775692882670

Please send report to: Jessica Kramer
Address: 1089 N Canal Street
E-Mail: jessica.kramer@xenco.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
630590-001	S	SS01	07/09/19 09:20	SW8021B	BTEX by EPA 8021B	07/17/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630590-001	S	SS01	07/09/19 09:20	SW8015MOD_NM	TPH by SW8015 Mod	07/17/19	07/23/19	JKR	GRO-DRO PHCC10C28 PI	
630590-001	S	SS01	07/09/19 09:20	E300_CL	Chloride by EPA 300	07/17/19	01/05/20	JKR	CL	
630590-002	S	SS02	07/09/19 09:24	SW8015MOD_NM	TPH by SW8015 Mod	07/17/19	07/23/19	JKR	GRO-DRO PHCC10C28 PI	
630590-002	S	SS02	07/09/19 09:24	SW8021B	BTEX by EPA 8021B	07/17/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630590-002	S	SS02	07/09/19 09:24	E300_CL	Chloride by EPA 300	07/17/19	01/05/20	JKR	CL	
630590-003	S	SS03	07/09/19 09:46	SW8021B	BTEX by EPA 8021B	07/17/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630590-003	S	SS03	07/09/19 09:46	SW8015MOD_NM	TPH by SW8015 Mod	07/17/19	07/23/19	JKR	GRO-DRO PHCC10C28 PI	
630590-003	S	SS03	07/09/19 09:46	E300_CL	Chloride by EPA 300	07/17/19	01/05/20	JKR	CL	
630590-004	S	SS04	07/09/19 09:49	SW8021B	BTEX by EPA 8021B	07/17/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630590-004	S	SS04	07/09/19 09:49	SW8015MOD_NM	TPH by SW8015 Mod	07/17/19	07/23/19	JKR	GRO-DRO PHCC10C28 PI	
630590-004	S	SS04	07/09/19 09:49	E300_CL	Chloride by EPA 300	07/17/19	01/05/20	JKR	CL	
630590-005	S	SS05	07/09/19 10:11	SW8021B	BTEX by EPA 8021B	07/17/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630590-005	S	SS05	07/09/19 10:11	SW8015MOD_NM	TPH by SW8015 Mod	07/17/19	07/23/19	JKR	GRO-DRO PHCC10C28 PI	
630590-005	S	SS05	07/09/19 10:11	E300_CL	Chloride by EPA 300	07/17/19	01/05/20	JKR	CL	
630590-006	S	SS06	07/09/19 10:36	SW8015MOD_NM	TPH by SW8015 Mod	07/17/19	07/23/19	JKR	GRO-DRO PHCC10C28 PI	
630590-006	S	SS06	07/09/19 10:36	SW8021B	BTEX by EPA 8021B	07/17/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630590-006	S	SS06	07/09/19 10:36	E300_CL	Chloride by EPA 300	07/17/19	01/05/20	JKR	CL	
630590-007	S	SS07	07/09/19 11:21	E300_CL	Chloride by EPA 300	07/17/19	01/05/20	JKR	CL	
630590-007	S	SS07	07/09/19 11:21	SW8021B	BTEX by EPA 8021B	07/17/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630590-007	S	SS07	07/09/19 11:21	SW8015MOD_NM	TPH by SW8015 Mod	07/17/19	07/23/19	JKR	GRO-DRO PHCC10C28 PI	
630590-008	S	SS08	07/09/19 11:41	SW8021B	BTEX by EPA 8021B	07/17/19	07/23/19	JKR	BR4FBZ BZ BZME EBZ X	
630590-008	S	SS08	07/09/19 11:41	E300_CL	Chloride by EPA 300	07/17/19	01/05/20	JKR	CL	
630590-008	S	SS08	07/09/19 11:41	SW8015MOD_NM	TPH by SW8015 Mod	07/17/19	07/23/19	JKR	GRO-DRO PHCC10C28 PI	

Inter-Office Shipment

IOS Number **43260**

Date/Time: 07/11/19 14:27
Lab# From: **Carlsbad**
Lab# To: **Midland**

Created by: Elizabeth Mcclellan
Delivery Priority:
Air Bill No.: 775692882670

Please send report to: Jessica Kramer
Address: 1089 N Canal Street
E-Mail: jessica.kramer@xenco.com

Inter Office Shipment or Sample Comments:

Relinquished By: Elizabeth McClellan

Date Relinquished: 07/11/2019

Received By: Brianna Teel

Date Received: 07/12/2019 11:42

Cooler Temperature: 0.4

XENCO Laboratories

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 43260

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

Sent By: Elizabeth McClellan **Date Sent:** 07/11/2019 02:27 PM

Received By: Brianna Teel **Date Received:** 07/12/2019 11:42 AM

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

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ **Contacted by :** _____ **Date:** _____

Checklist reviewed by: Brianna Teel Date: 07/12/2019

Brianna Teel

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 07/11/2019 12:43:00 PM

Work Order #: 630590

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

Temperature Measuring device used : T-NM-007

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	2.8	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**No**	
#5 Custody Seals intact on sample bottles?	**No**	
#6*Custody Seals Signed and dated?	**N/A**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**Yes**	Subbed to Xenco Midland.
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Elizabeth McClellan Date: 07/11/2019

Checklist reviewed by: Jessica Kramer Date: 07/12/2019