Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	NRM2028948451
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: ***Each of the following items must be included in the closure report.***

☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC

☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

☒ Description of remediation activities

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. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: Kyle Littrell Title: SH&E Supervisor

Signature: Date: 01-27-2021

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

OCD Only

Received by: Chad Hensley Date: 03/26/2021

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: ~~DENIED~~ CH Chad Hensley Date: 03/26/2021

Printed Name: Chad Hensley Title: Environmental Specialist Advanced

WSP USA
3300 North "A" Street
Building 1, Unit 222
Midland, Texas 79705
432.704.5178

January 29, 2021

District II
New Mexico Oil Conservation Division
811 South First Street
Artesia, New Mexico 88210

RE: Closure Request
Muy Wayno Frac Pond
Incident Number NRM2028948451
Eddy County, New Mexico

To Whom It May Concern:

WSP USA Inc. (WSP) (formerly LT Environmental, Inc.), on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request detailing site assessment, excavation, and soil sampling activities at the Muy Wayno Frac Pond (Site) in Unit F, Section 7, Township 25 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment, excavation, and soil sampling activities was to address impacts to soil following a release of produced water at the Site. Based on the excavation activities and soil sampling laboratory analytical results, XTO is submitting this Closure Request and requesting no further action (NFA) for Incident Number NRM2028948451.

RELEASE BACKGROUND

On September 30, 2020, a lay-flat line was struck by a truck resulting in the release of approximately 17.21 barrels (bbls) of produced water onto the surface of the well pad and into the pasture area east of the pad. No fluids 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 October 13, 2020 and was assigned Incident Number NRM2028948451.

SITE CHARACTERIZATION

WSP 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 greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is United States Geological Survey (USGS) well 320857103553301, located approximately 0.23 miles northwest of the Site. The groundwater well has a reported depth to groundwater of 264 feet bgs and a total depth of 385 feet bgs. Ground surface elevation at the groundwater well location is 3,173 feet above mean sea level (amsl), which is approximately 3 feet lower in elevation than the Site. All wells used for depth to

groundwater determination are depicted on Figure 1 and the associated referenced well records are included in Attachment 1.

The closest continuously flowing or significant watercourse to the Site is an intermittent stream, located approximately 455 feet north of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

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)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

A reclamation standard of 600 mg/kg chloride and 100 mg/kg TPH was applied to the top four feet the pasture area that was impacted by the release, per NMAC 19.15.29.13.D (1) for the top four feet of areas that will be reclaimed following remediation.

SITE ASSESSMENT ACTIVITIES AND ANALYTICAL RESULTS

On October 13, 2020, WSP personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. WSP personnel collected five preliminary soil samples (SS01 through SS05) within the release extent from a depth of approximately 0.25 feet bgs to assess the lateral extent of the impacted soil. The preliminary 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 Positioning System (GPS) unit and are depicted on Figure 2.

The preliminary 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 transported at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC)

procedures to Xenco Laboratories (Xenco) in Carlsbad, New Mexico, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results for preliminary soil samples SS02 and SS03 indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria. Laboratory analytical results for preliminary soil samples SS01, SS04, and SS05 indicated that chloride concentrations exceeded the Closure Criteria and/or the reclamation standards. Based on visible staining in the release area, elevated field screening results, and laboratory analytical results for the preliminary soil samples, delineation and excavation activities were warranted.

DELINEATION SOIL SAMPLING ACTIVITIES

On December 8, 2020 in coordination with excavation activities, WSP oversaw delineation activities on the well pad and pasture area east of the frac pond. Five potholes (PH01 through PH05) were advanced via track-mounted backhoe at five locations within the release extent to assess the lateral and vertical extent of impacted soil. Potholes PH01 through PH05 were advanced to depths ranging from 0.5 feet bgs to 3 feet bgs. Delineation soil samples were collected from each pothole from depths ranging from 0.5 feet bgs to 3 feet bgs. PH01, PH02, and PH05 were advanced at the SS01 through SS03 preliminary soil sample locations, respectively. Soil from the potholes was field screened for volatile aromatic hydrocarbons and chloride utilizing PID and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for the potholes were logged on lithologic/soil sampling logs, which are included in Attachment 2. The pothole and delineation soil sample locations are depicted on Figure 3.

Laboratory analytical results for the delineation soil samples collected from potholes PH01, PH02, and PH05 indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria. Laboratory analytical results for the 1-foot bgs delineation samples from potholes PH03 and PH04 indicated that chloride concentrations exceeded the reclamation standard, and excavation activities were warranted. Subsequent delineation samples collected at 2 feet and 3 feet bgs from potholes PH03 and PH04 were compliant with the reclamation standard.

EXCAVATION SOIL SAMPLING ACTIVITIES

Between December 8, 2020 through December 17, 2020, WSP personnel returned to the Site to oversee excavation activities as indicated by visual observations, field screening activities, and laboratory analytical results for the preliminary and delineation soil samples.

Excavation activities were performed using track-mounted backhoe, transport vehicle, and hydrovac. The excavation occurred on pad and in the adjacent pasture east of the frac pond. The areas with surface staining on pad were scraped utilizing a track-mounted backhoe. To direct excavation activities, WSP screened soil for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively. Photographic documentation is included in Attachment 3.

Following removal of impacted soil, WSP collected 5-point composite soil samples every 200 square feet from the sidewalls and floor of the excavation. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples SW01 through SW10 were collected from the sidewalls of the excavation from depths ranging from the ground surface to a maximum depth of 3 feet bgs. Composite soil samples FS01 through FS20 were collected from the floor of the excavation from depths ranging from 0.5 feet bgs to a maximum depth of 4 feet bgs. The excavation soil samples were collected, handled, and analyzed following the same procedures as described above.

Laboratory analytical results for excavation samples FS01 through FS11, FS15 through FS20 and sidewall samples SW01 through SW03, and SW05 through SW10 indicated that benzene, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Site Closure Criteria and/or the reclamation standards. Laboratory analytical results for floor samples FS12 through FS14 and sidewall sample SW04 initially exceeded the reclamation standard for TPH in the top four feet. Additional soil was removed from the area around floor samples FS12 through FS14 and sidewall sample SW04. Subsequent floor samples FS18 through FS20 and subsequent sidewall sample SW10 were compliant. The final excavation extent and excavation soil sample locations are presented on Figure 4.

The excavation area measured approximately 3,500 square feet. A total of approximately 260 cubic yards of impacted soil was removed during the excavation activities. The impacted soil was transported and properly disposed of at the R360 Facility in Hobbs, New Mexico. After completion of confirmation sampling, the excavation area was secured with fencing.

Berm Maintenance

The release footprint encompassed an engineered berm with caliche construction material underlined by a liner. Due to visible staining located on top of the berm, the area was scraped utilizing a hydro-vacuum. Once the surficial staining was removed from the embankment, two berm material samples (BM01 and BM02) were collected, handled, and analyzed following the same procedures as described above. Additional vertical and lateral delineation could not be achieved due to maintaining the integrity of the liner. WSP personnel sampled on top of the berm containment before reconstruction of the berm.

Laboratory analytical results for the berm material samples (BM01 and BM02) collected from on top of the berm near the release point indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. The berm material sample locations are presented on Figure 4.

SOIL ANALYTICAL RESULTS

Laboratory analytical results for preliminary soil samples SS02 and SS03 indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical results for preliminary soil sample SS01 indicated that chloride exceeded the Closure Criteria. Laboratory analytical results for preliminary soil samples SS04 and SS05 indicated that chloride concentrations exceeded the reclamation standard in the top four feet.

Laboratory analytical results for the delineation soil samples collected from on-pad potholes PH01, PH02, and PH05 indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical results for the 1-foot bgs delineation samples from potholes PH03 and PH04 indicated that chloride concentrations exceeded the reclamation standard; subsequent delineation samples collected at 2 feet and 3 feet bgs from potholes PH03 and PH04 were compliant with the reclamation standard.

Laboratory analytical results for final excavation floor samples FS01 through FS11 and FS15 through FS20 and final excavation sidewall samples SW01 through SW03, SW05 through SW10 indicated that benzene, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and/or the reclamation standard for the top four feet of the subsurface. Additionally, laboratory analytical results for the berm material samples collected from on top of the berm near the release point (BM01 and BM02) indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical results are summarized in Table 1 and the full laboratory analytical reports are included as Attachment 4.

CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the September 30, 2020 release of produced water. Laboratory analytical results for excavation soil samples, collected from the final excavation extent, indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Additionally, soil samples collected in the pasture from the top four feet of the subsurface were compliant with the reclamation standard. Based on the soil sample analytical results, no further remediation was required. XTO will backfill the excavation with material purchased locally and recontour the Site

to match pre-existing site conditions. The disturbed pasture area will be re-seeded with an approved BLM seed mixture.

Excavation of impacted soil has mitigated impacts at this Site. Depth to groundwater has been determined to be greater than 100 feet bgs and no other sensitive receptors were identified near the release extent. WSP and XTO believe these remedial actions are protective of human health, the environment, and groundwater. As such, XTO respectfully requests no further action for Incident Number NRM2028948451.

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

Sincerely,

WSP USA Inc.

Spencer Lo
Staff Geologist

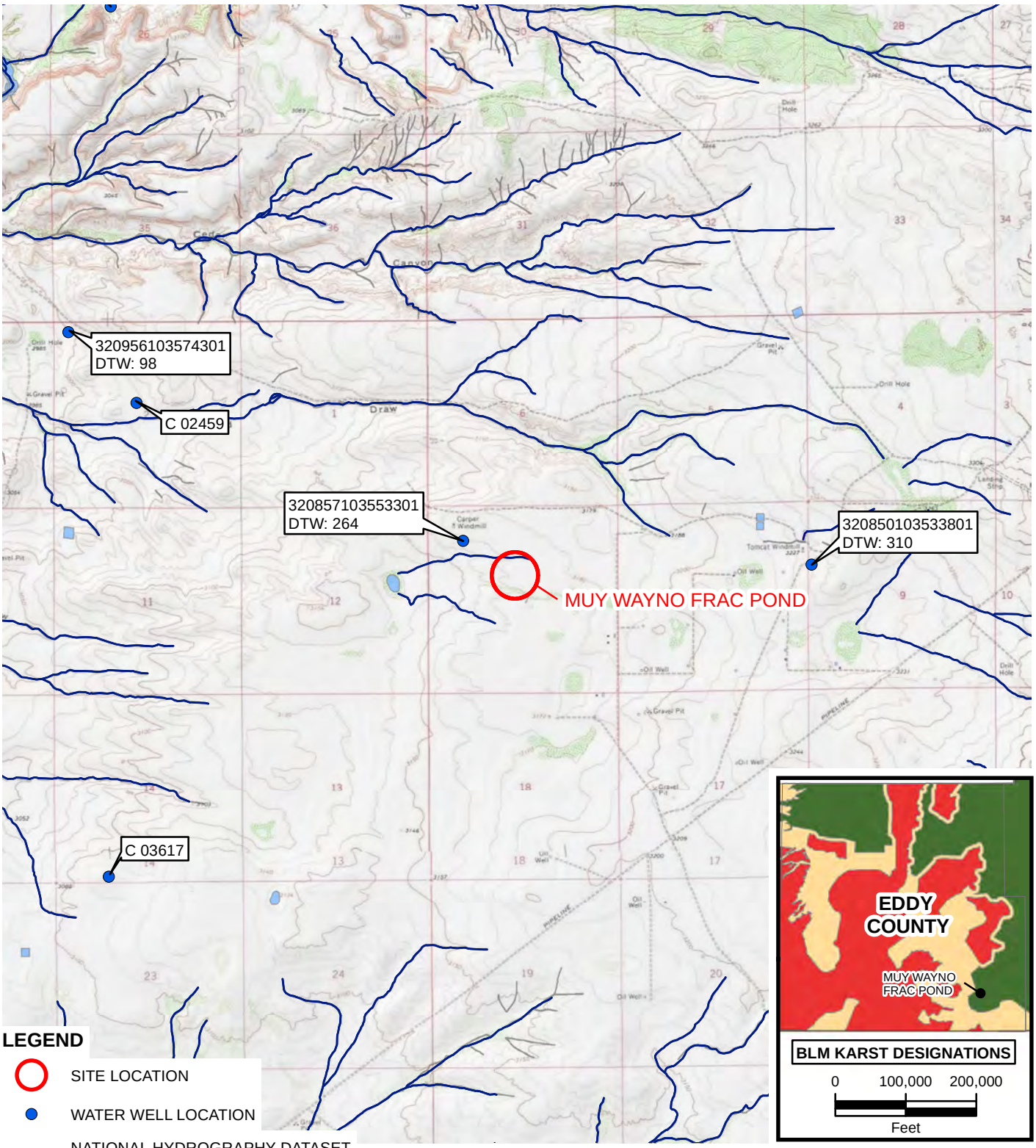
Ashley L. Ager, P.G.
Managing Director, Geologist

cc: Kyle Littrell, XTO
Jim Amos, Bureau of Land Management

Attachments:

Figure 1	Site Location Map
Figure 2	Preliminary Soil Sample Locations
Figure 3	Delineation Soil Sample Locations
Figure 4	Excavation Soil Sample Locations
Table 1	Soil Analytical Results
Attachment 1	Referenced Well Records
Attachment 2	Lithologic/Sampling Log
Attachment 3	Photographic Log
Attachment 4	Laboratory Analytical Reports

FIGURES



LEGEND

- SITE LOCATION
- WATER WELL LOCATION
- NATIONAL HYDROGRAPHY DATASET SURFACE WATER FEATURE
- NATIONAL WETLANDS INVENTORY SURFACE WATER FEATURE
- LOW KARST
- MEDIUM KARST
- HIGH KARST

DTW: DEPTH TO WATER IN FEET
BLM: BUREAU OF LAND MANAGEMENT
NOTE: INCIDENT NUMBER NRM2028948451

FIGURE 1
SITE LOCATION MAP
MUY WAYNO FRAC POND
UNIT F SEC 7 T25S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\MXD\012920149_MUY WAYNO FRAC POND\012920149_FIG01_SL_RECEPTOR_2020.mxd

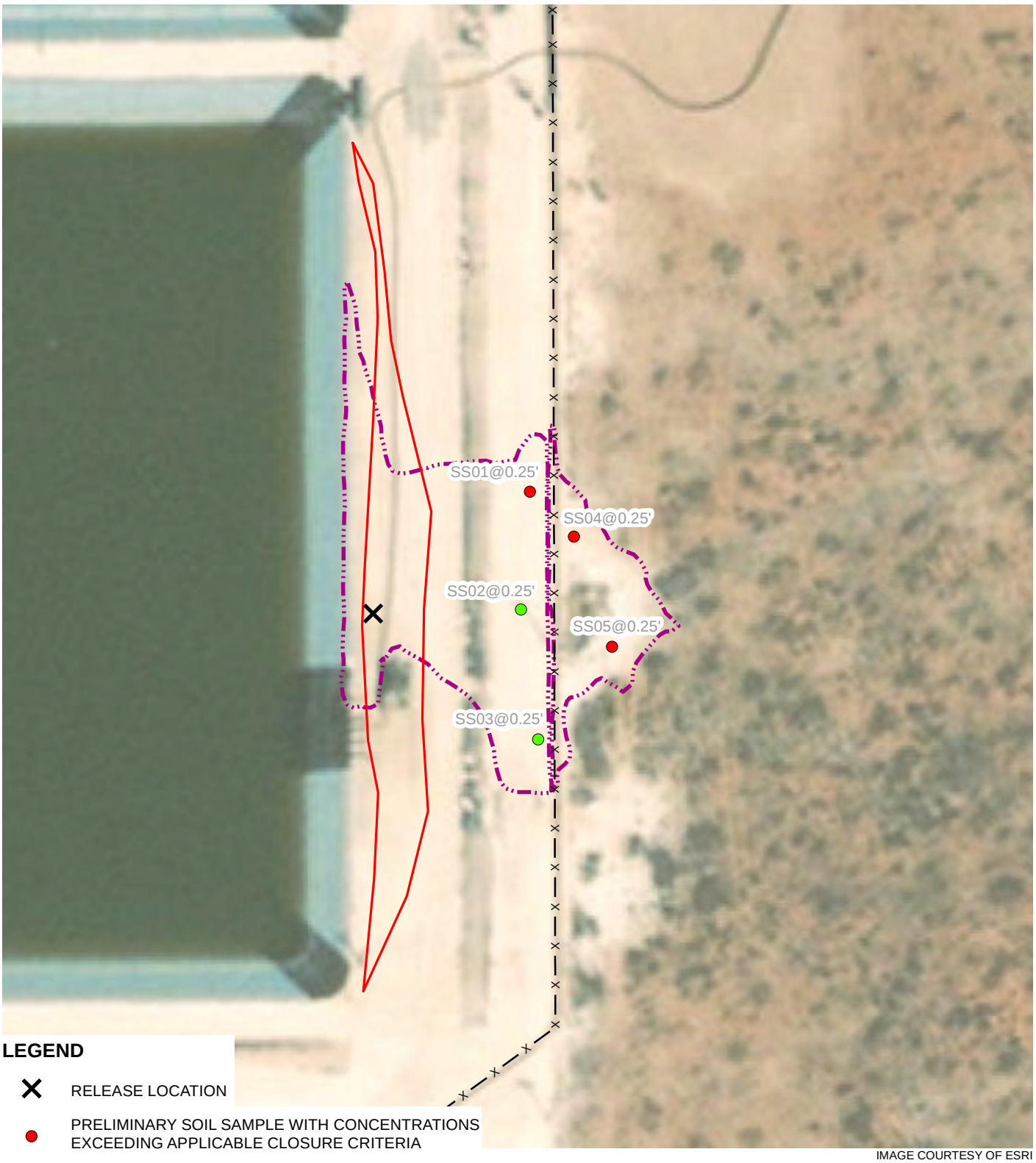


IMAGE COURTESY OF ESRI

LEGEND

- RELEASE LOCATION
- PRELIMINARY SOIL SAMPLE WITH CONCENTRATIONS EXCEEDING APPLICABLE CLOSURE CRITERIA
- PRELIMINARY SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- ELECTRIC LINE
- FENCE
- RELEASE EXTENT

NOTE: INCIDENT NUMBER NRM2028948451
TEXT: INDICATES SOIL REPRESENTED BY SAMPLE THAT WAS REMOVED
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

0 60 120
Feet

N

FIGURE 2
PRELIMINARY SOIL SAMPLE LOCATIONS
MUY WAYNO FRAC POND
UNIT F SEC 7 T25S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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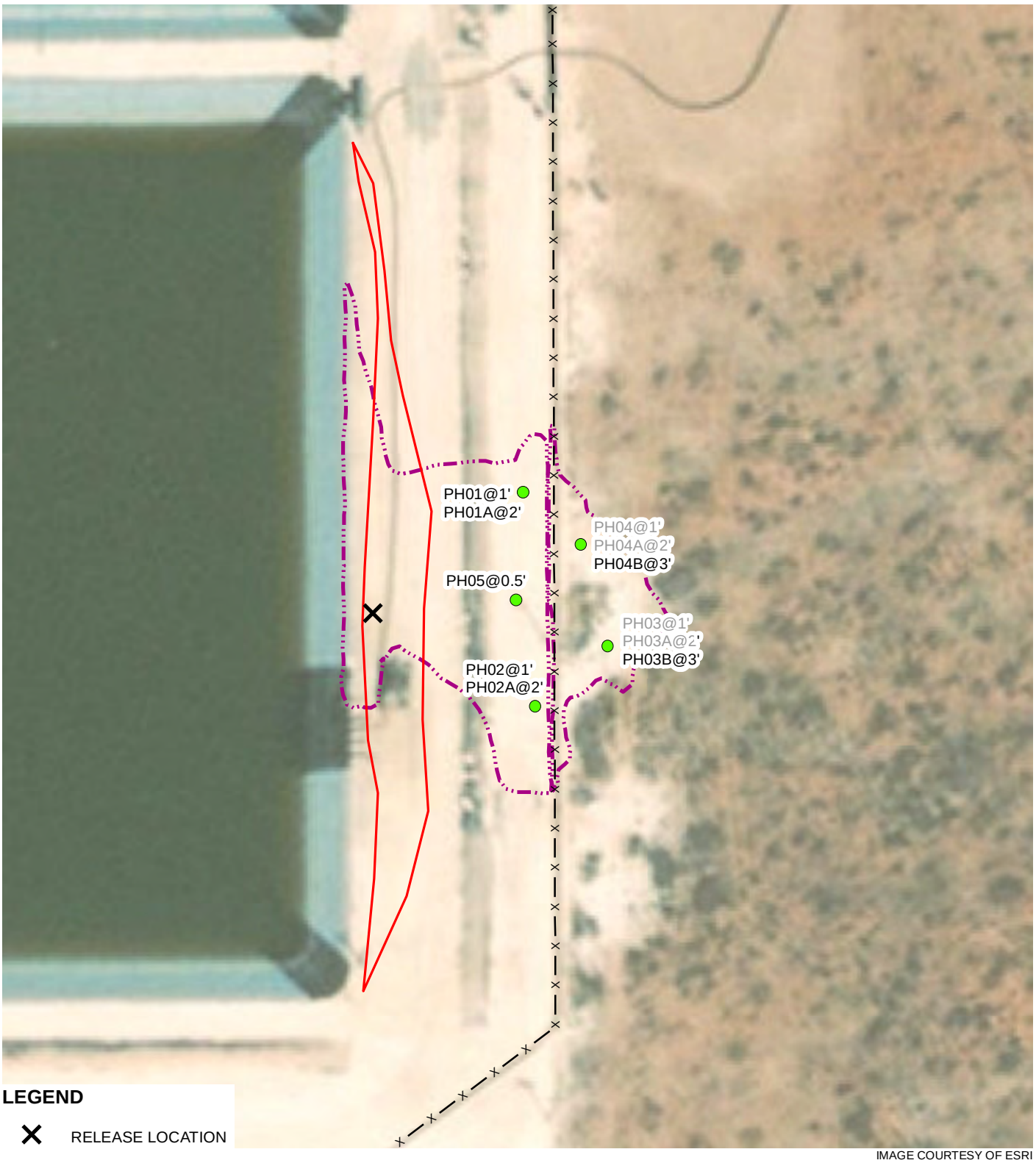

IMAGE COURTESY OF ESRI

LEGEND

- RELEASE LOCATION
- DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- ELECTRIC LINE
- FENCE
- RELEASE EXTENT

NOTE: INCIDENT NUMBER NRM2028948451
TEXT: INDICATES SOIL REPRESENTED BY SAMPLE THAT WAS REMOVED
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

0 60 120
Feet

N

FIGURE 3
DELINEATION SOIL SAMPLE LOCATIONS
MUY WAYNO FRAC POND
UNIT F SEC 7 T25S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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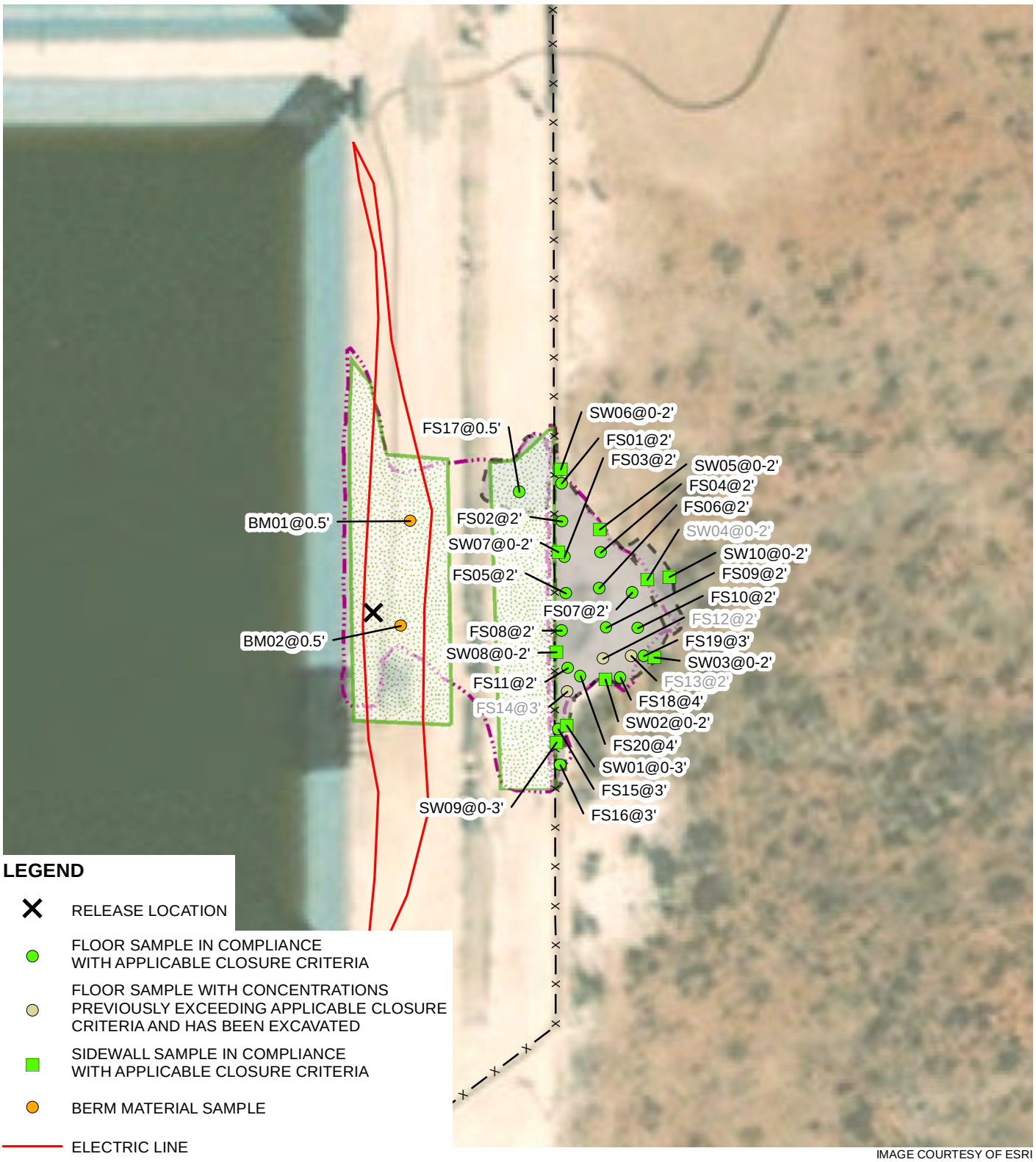

LEGEND

- RELEASE LOCATION
- FLOOR SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- FLOOR SAMPLE WITH CONCENTRATIONS PREVIOUSLY EXCEEDING APPLICABLE CLOSURE CRITERIA AND HAS BEEN EXCAVATED
- SIDEWALL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- BERM MATERIAL SAMPLE
- ELECTRIC LINE
- x — x FENCE
- RELEASE EXTENT
- EXCAVATION EXTENT
- SURFACE SCRAPED AREA

NOTE: INCIDENT NUMBER NRM2028948451
TEXT: INDICATES SOIL REPRESENTED BY SAMPLE THAT WAS REMOVED
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

IMAGE COURTESY OF ESRI

0 60 120
Feet

N

FIGURE 4
EXCAVATION SOIL SAMPLE LOCATIONS
MUY WAYNO FRAC POND
UNIT F SEC 7 T25S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

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TABLES

Table 1

Soil Analytical Results
Muy Wayno Frac Pond
Incident Number NRM2028948451
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	**1,000**	**2,500**	**20,000**
Surface Samples										
SS01	10/13/2020	0.25	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	**25,400**
SS02	10/13/2020	0.25	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	16,200
SS03	10/13/2020	0.25	<0.00202	<0.00202	<50.3	<50.3	<50.3	<50.3	<50.3	16,400
SS04	10/13/2020	0.25	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	18,200
SS05	10/13/2020	0.25	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	**27,600**
Delineation Samples										
PH01	12/08/2020	1	<0.00198	<0.001980	<49.9	<49.9	<49.9	<49.9	<49.9	186
PH01A	12/08/2020	2	<0.00198	<0.001980	<50.2	<50.2	<50.2	<50.2	<50.2	125
PH02	12/08/2020	1	<0.00199	<0.001990	<49.9	<49.9	<49.9	<49.9	<49.9	199
PH02A	12/08/2020	2	<0.00200	<0.002000	<50.2	<50.2	<50.2	<50.2	<50.2	199
PH03	12/08/2020	1	<0.00202	<0.002020	<50.1	<50.1	<50.1	<50.1	<50.1	**697***
PH03A	12/08/2020	2	<0.00198	<0.001980	<50.2	<50.2	<50.2	<50.2	<50.2	244*
PH03B	12/08/2020	3	<0.00200	<0.002000	<49.8	<49.8	<49.8	<49.8	<49.8	39.9*
PH04	12/08/2020	1	<0.00199	<0.001990	<50.2	<50.2	<50.2	<50.2	<50.2	**1,310***
PH04A	12/08/2020	2	<0.00198	<0.001980	<50.2	<50.2	<50.2	<50.2	<50.2	180*
PH04B	12/08/2020	3	<0.00200	<0.002000	<50.1	<50.1	<50.1	<50.1	<50.1	37.2*
PH05	12/09/2020	0.5	<0.00201	<0.002010	<50.1	<50.1	<50.1	<50.1	<50.1	6,820
Excavation Floor Samples										
FS01	12/09/2020	2	<0.00199	<0.001990	<50.0	<50.0	<50.0	<50.0	<50.0	422*
FS02	12/09/2020	2	<0.00199	<0.001990	<49.8	<49.8	<49.8	<49.8	<49.8	346*
FS03	12/09/2020	2	<0.00200	<0.002000	<50.1	<50.1	<50.1	<50.1	<50.1	328*
FS04	12/09/2020	2	<0.00198	<0.001980	<49.9	<49.9	<49.9	<49.9	<49.9	372*

Table 1

Soil Analytical Results
Muy Wayno Frac Pond
Incident Number NRM2028948451
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	**1,000**	**2,500**	**20,000**
FS05	12/09/2020	2	<0.00199	<0.001990	<49.8	<49.8	<49.8	<49.8	<49.8	200*
FS06	12/09/2020	2	<0.00200	<0.002000	<50.0	<50.0	<50.0	<50.0	<50.0	166*
FS07	12/09/2020	2	<0.00202	<0.002020	<50.0	<50.0	<50.0	<50.0	<50.0	196*
FS08	12/09/2020	2	<0.00201	<0.002010	<50.3	<50.3	<50.3	<50.3	<50.3	193*
FS09	12/09/2020	2	<0.00200	<0.002000	<50.2	<50.2	<50.2	<50.2	<50.2	24.2*
FS10	12/09/2020	2	<0.00199	<0.001990	<50.2	<50.2	<50.2	<50.2	<50.2	37.1*
FS11	12/09/2020	2	<0.00200	<0.002000	<49.9	<49.9	<49.9	<49.9	<49.9	39.1*
FS12	12/09/2020	2	<0.00198	<0.001980	52.9	629	541	681.9	1,223	38.9*
FS13	12/09/2020	2	<0.00202	<0.002020	<50.0	69.0	90.7	69.0	159.7	84.9*
FS14	12/09/2020	3	<0.00198	<0.001980	<50.0	<50.0	156	<50.0	156.0	254*
FS15	12/09/2020	3	<0.00200	<0.002000	<50.3	<50.3	61.9	<50.3	61.9	516*
FS16	12/09/2020	3	<0.00200	<0.002000	<49.9	<49.9	<49.9	<49.9	<49.9	483*
FS17	12/09/2020	0.5	<0.00201	<0.002010	<50.0	<50.0	<50.0	<50.0	<50.0	4,220
FS18	12/17/2020	4	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	516
FS19	12/17/2020	3	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	222*
FS20	12/17/2020	4	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	1,890
Excavation Sidewall Samples										
SW01	12/09/2020	0 - 3	<0.00201	<0.002010	<50.1	<50.1	<50.1	<50.1	<50.1	108*
SW02	12/09/2020	0 - 2	<0.00199	<0.001990	<50.2	<50.2	<50.2	<50.2	<50.2	122*
SW03	12/09/2020	0 - 2	<0.00200	<0.002000	<50.2	<50.2	<50.2	<50.2	<50.2	113*
SW04	12/09/2020	0 - 2	<0.00201	<0.002010	183	86.2	<49.8	269.2	**269.2**	28.8*

Table 1

Soil Analytical Results
Muy Wayno Frac Pond
Incident Number NRM2028948451
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	**1,000**	**2,500**	**20,000**
SW05	12/09/2020	0 - 2	<0.00199	<0.001990	<49.9	<49.9	68.6	<49.9	68.6	40.1*
SW06	12/09/2020	0 - 2	<0.00200	<0.002000	<50.2	<50.2	<50.2	<50.2	<50.2	51.2*
SW07	12/09/2020	0 - 2	<0.00201	<0.002010	<50.2	<50.2	<50.2	<50.2	<50.2	393*
SW08	12/09/2020	0 - 2	<0.00200	<0.002000	<50.3	<50.3	<50.3	<50.3	<50.3	376*
SW09	12/09/2020	0 - 3	<0.00200	<0.002000	<49.8	<49.8	<49.8	<49.8	<49.8	374*
SW10	12/17/2020	0 - 2	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	71.4*
Berm Material										
BM01	12/10/2020	0.5	<0.00198	<0.001980	<50.0	<50.0	<50.0	<50.0	<50.0	2,570
BM02	12/10/2020	0.5	<0.00199	<0.001990	<50.0	<50.0	<50.0	<50.0	<50.0	6,630

ft - feet/foot
mg/kg - milligrams per kilograms
BTEX - benzene, toluene, ethylbenzene, and total xylenes
TPH - total petroleum hydrocarbons
DRO - diesel range organics
GRO - gasoline range organics
ORO - motor oil range organics
NMOCD - New Mexico Oil Conservation Division
NMAC - New Mexico Administrative Code
< - indicates result is less than the stated laboratory method practical quantitation limit
NE - Not Established
BOLD - indicates results exceed the higher of the background sample result or applicable regulatory standard
Text impated soil was removed
* - indicates sample was collected in area to be reclaimed after remediation is complete;
closure criteria for chloride concentration in the top 4 feet of soil is 600 mg/kg

ATTACHMENT 1: REFERENCED WELL RECORD

USGS 320857103553301 25S.30E.07.112331

Available data for this site

Well Site

DESCRIPTION:

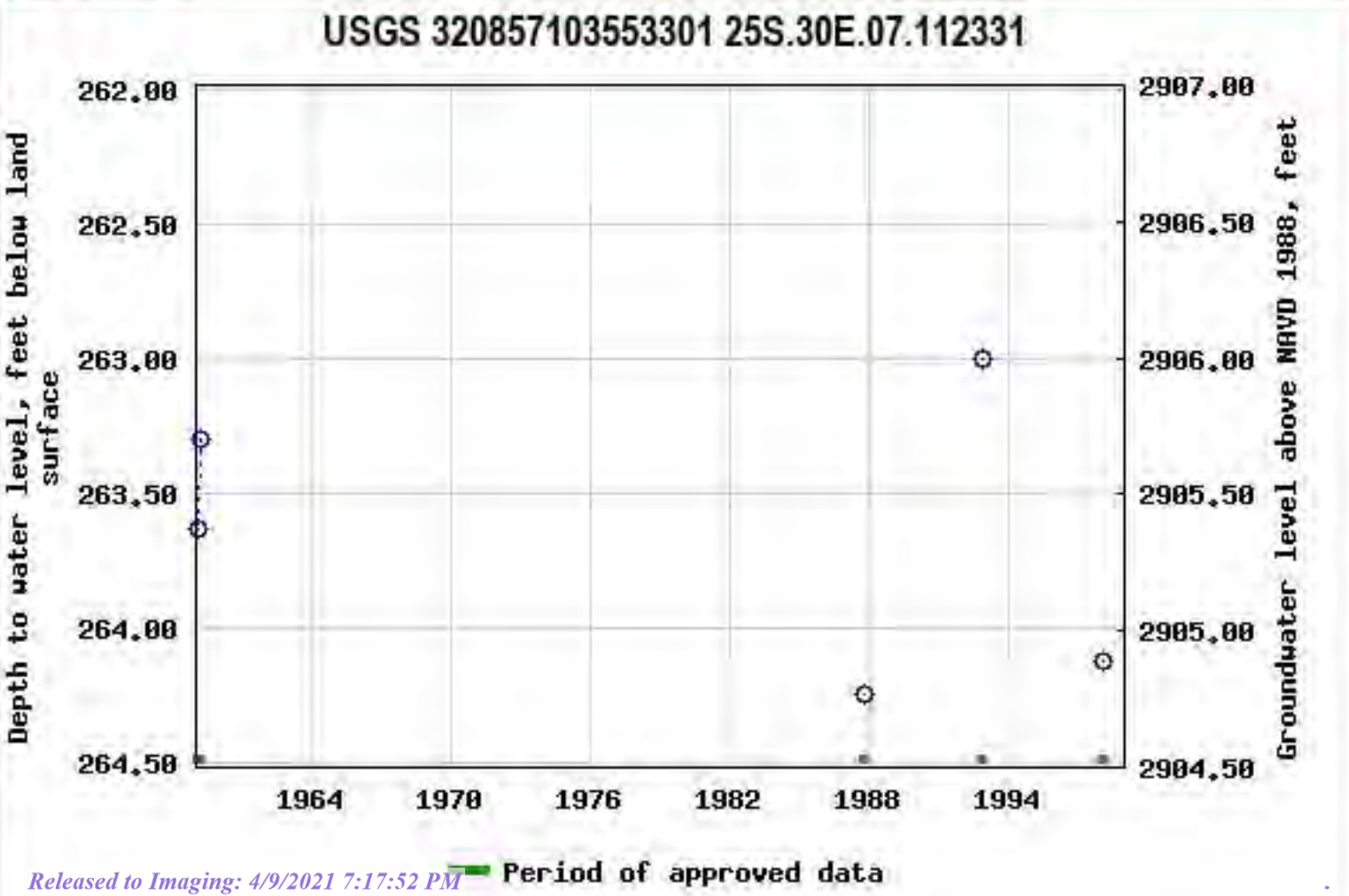
Latitude 32°08'57", Longitude 103°55'33" NAD27
Eddy County, New Mexico , Hydrologic Unit 13060011
Well depth: 385 feet
Land surface altitude: 3,169 feet above NAVD88.
Well completed in "Alluvium, Bolson Deposits and Other Surface Deposits" (110AVMB) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1959-02-05	1998-01-28	5
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries


USGS 320857103553301 25S.30E.07.112331
Depth to water level, feet below land surface
262.00
262.50
263.00
263.50
264.00
264.50
Groundwater level above NAVD 1988, feet
2907.00
2906.50
2906.00
2905.50
2905.00
2904.50
1964
1970
1976
1982
1988
1994
Period of approved data

USGS 320850103533801 25S.30E.08.224444

Available data for this site

Well Site

DESCRIPTION:

Latitude 32°08'50", Longitude 103°53'38" NAD27
Eddy County, New Mexico , Hydrologic Unit 13060011
Well depth: not determined.
Land surface altitude: 3,232 feet above NAVD88.
Well completed in "Alluvium, Bolson Deposits and Other Surface Deposits" (110AVMB) local aquifer

AVAILABLE DATA:

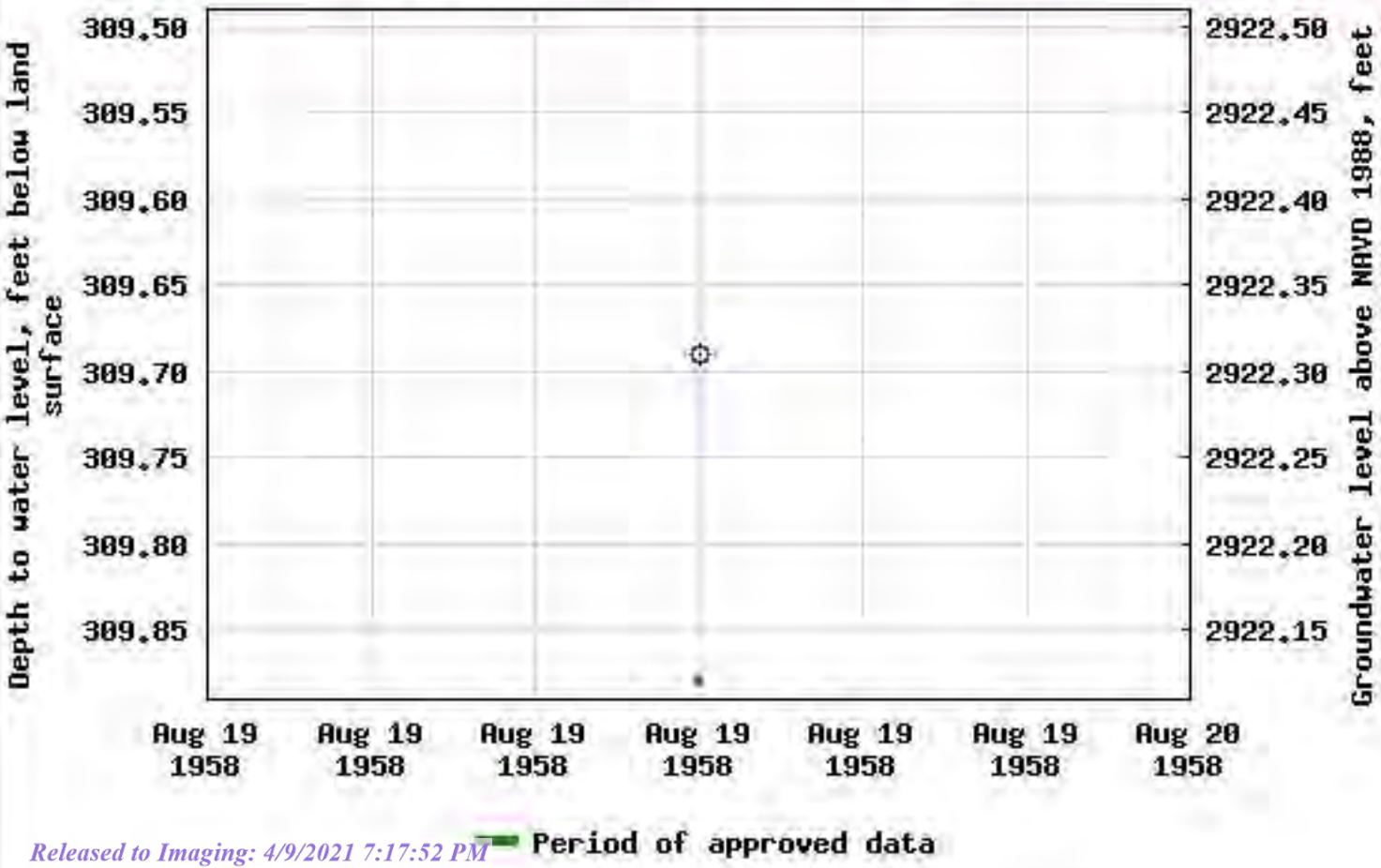
Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1958-08-19	1958-08-19	1
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

USGS

USGS 320850103533801 25S.30E.08.224444



USGS 320956103574301 25S.29E.02.11111

Available data for this site

Well Site

DESCRIPTION:

Latitude 32°09'56", Longitude 103°57'43" NAD27
Eddy County, New Mexico , Hydrologic Unit 13060011
Well depth: 140 feet
Land surface altitude: 3,000 feet above NAVD88.
Well completed in "Rustler Formation" (312RSLR) local aquifer

AVAILABLE DATA:

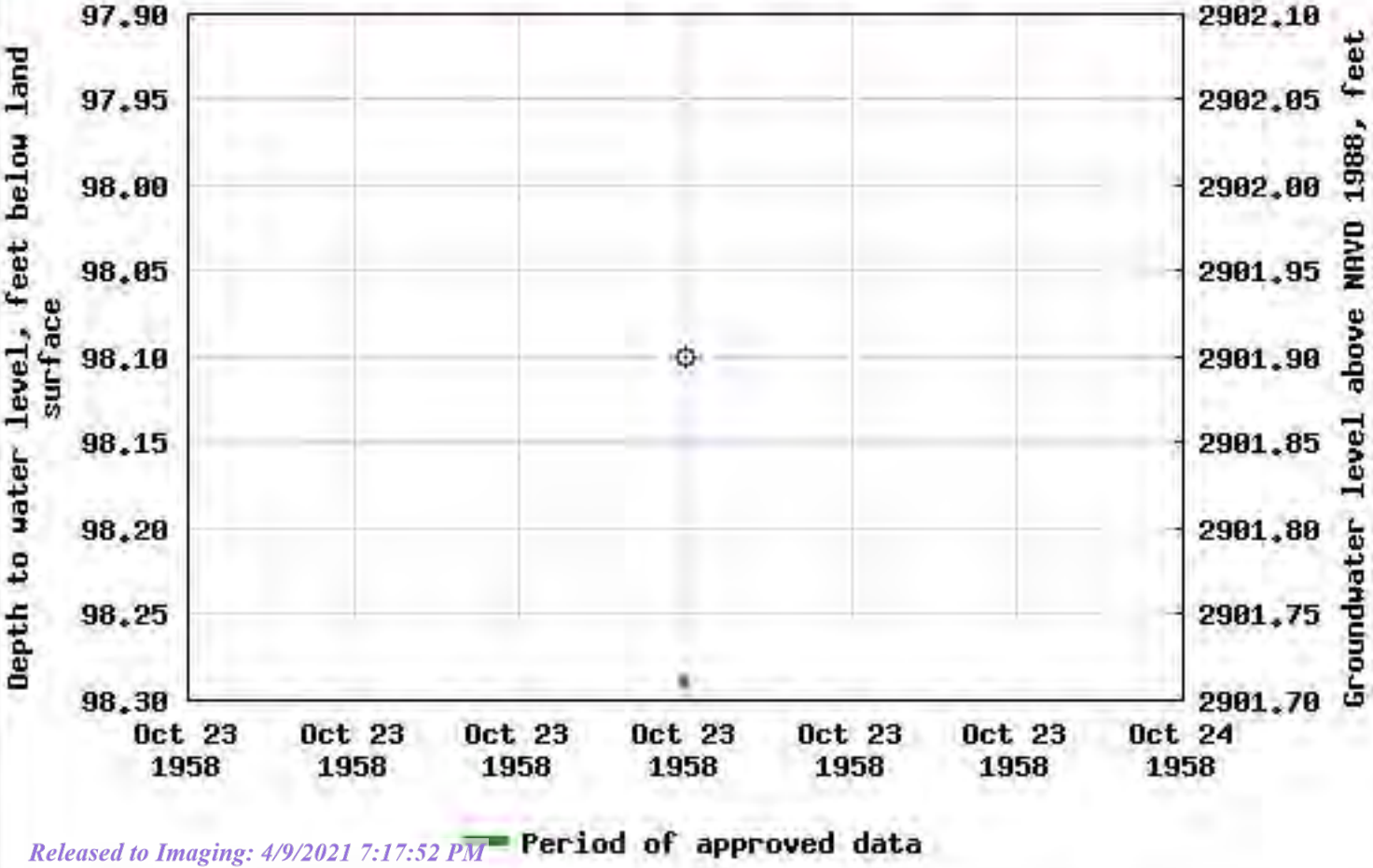
Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1958-10-23	1958-10-23	1
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS New Mexico Water Science Center
Email questions about this site to New Mexico Water Science Center Water-Data Inquiries

USGS

USGS 320956103574301 25S.29E.02.11111



New Mexico Office of the State Engineer
Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Twn	Rng	X	Y
	C 02371		2	3	15	25S	29E	596741	3555106*

x

Driller License: 1259 **Driller Company:** CAMPBELL DRILLING

Driller Name: CAMPBELL, MICHAEL R.

Drill Start Date: 01/12/1995 **Drill Finish Date:** 01/24/1995 **Plug Date:**

Log File Date: 02/01/1995 **PCW Rcv Date:** **Source:** Shallow

Pump Type: **Pipe Discharge Size:** **Estimated Yield:** 20 GPM

Casing Size: 7.00 **Depth Well:** 200 feet **Depth Water:** 60 feet

x

Water Bearing Stratifications:	Top	Bottom	Description
	162	200	Sandstone/Gravel/Conglomerate

x

Casing Perforations:	Top	Bottom
	140	200

x

***UTM location was derived from PLSS - see Help**

POINT OF DIVERSION SUMMARY

ATTACHMENT 2: LITHOLOGIC/SAMPLING LOG

WSP USA

508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: PH01	Date: 12/8/2020
Site Name:	Muy Wayno Frac Pond
RP or Incident Number:	NRM2028948451
LTE Job Number:	TE012920149
Logged By SL	Method: Trackhoe
Lat/Long:	Field Screening: Chloride, PID
Hole Diameter: -	Total Depth: 2'

LITHOLOGIC / SOIL SAMPLING LOG

Comments: TD @ 2', field screening values include 60% error factor

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		0-2' Caliche w/ sand, off-white, tan, m-f, poorly graded, no odor, no stain
D	320	0.0	N	PH01	1'	1	CCHE	
D	186	0.0	N	PH01A	2'	2		
								TD @ 2'
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

WSP USA

508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: PH02	Date: 12/8/2020
Site Name:	Muy Wayno Frac Pond
RP or Incident Number:	NRM2028948451
LTE Job Number:	TE012920149
Logged By SL	Method: Trackhoe
Lat/Long:	Field Screening: Chloride, PID
Hole Diameter:	Total Depth: 2'

LITHOLOGIC / SOIL SAMPLING LOG

Comments: TD @ 2', field screening values include 60% error factor

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		0-2' Caliche w/ sand, off-white, tan, m-f, poorly graded, no odor, no stain
D	320	0.0	N	PH02	1'	1	CCHE	
D	186	0.0	N	PH02A	2'	2		
								TD @ 2'
						3		
						4		
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: PH03	Date: 12/8/2020
Site Name:	Muy Wayno Frac Pond
RP or Incident Number:	NRM2028948451
LTE Job Number:	TE012920149
Logged By SL	Method: Trackhoe
Lat/Long:	Field Screening: Chloride, PID
Hole Diameter:	Total Depth: 3'

LITHOLOGIC / SOIL SAMPLING LOG

Comments: TD @ 3', field screening values include 60% error factor

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	2,976	0.0	N	PH03	1'	1	SP-SM	0-1' Sand w/ caliche gravel, brown, m-f, poorly graded, no odor, no stain
D	320	0.0	N	PH03A	2'	2	CCHE	1'-3' Caliche w/ sand, off-white, tan, m-f, poorly graded, no stain, no odor
D	<186	0.0	N	PH03B	3'	3		
						4		TD @ 3'
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: PH04	Date: 12/8/2020
Site Name:	Muy Wayno Frac Pond
RP or Incident Number:	NRM2028948451
LTE Job Number:	TE012920149
Logged By SL	Method: Trackhoe
Lat/Long:	Field Screening: Chloride, PID
Hole Diameter:	Total Depth: 3'

LITHOLOGIC / SOIL SAMPLING LOG

Comments: TD @ 3', field screening values include 60% error factor

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	1,433	0.0	N	PH04	1'	1	SP-SM	0-1' Sand w/ caliche gravel, brown, m-f, poorly graded, no odor, no stain
D	<186	0.0	N	PH04A	2'	2	CCHE	1'-3' Caliche w/ sand, off-white, tan, m-f, poorly graded, no stain, no odor
D	<186	0.0	N	PH04B	3'	3		
						4		TD @ 3'
						5		
						6		
						7		
						8		
						9		
						10		
						11		
						12		

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: PH05	Date: 12/9/2020
Site Name:	Muy Wayno Frac Pond
RP or Incident Number:	NRM2028948451
LTE Job Number:	TE012920149
Logged By SL	Method: Trackhoe
Lat/Long:	Field Screening: Chloride, PID
Hole Diameter:	Total Depth: 0.5'

LITHOLOGIC / SOIL SAMPLING LOG

Comments: TD @ 2', field screening values include 60% error factor

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D	8,371	0	N	PH05		0 0.5 1		Caliche w/ sand, off-white, tan, m-f, poorly graded, no odor, no stain
						2 3 4 5 6 7 8 9 10 11 12		TD @ 0.5'

ATTACHMENT 3: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG		
XTO Energy, Inc.	Muy Wayno Frac Pond Eddy, New Mexico	TE012920149

Photo No.	Date
1	October 13, 2020 – December 10, 2020

Southern view of staining in pasture area.

Photo No.	Date
2	October 13, 2020 – December 10, 2020

Northern view of pad staining.

PHOTOGRAPHIC LOG		
XTO Energy, Inc.	Muy Wayno Frac Pond Eddy, New Mexico	TE012920149

Photo No.	Date
3	October 13, 2020 – December 10, 2020

Northern view of staining on embankment.

Photo No.	Date
4	October 13, 2020 – December 10, 2020

Southern view of excavation in pasture area.

PHOTOGRAPHIC LOG		
XTO	Muy Wayno Frac Pond Eddy, NM	TE012920149

Photo No.	Date
5	October 13, 2020 – December 10, 2020

Southwestern view of excavation in pasture area.

Photo No.	Date
6	October 13, 2020 – December 10, 2020

Southeastern view excavated areas on pad and pasture.

PHOTOGRAPHIC LOG		
XTO	Muy Wayno Frac Pond Eddy, NM	TE012920149

Photo No.	Date
7	October 13, 2020 – December 10, 2020

Northern view of scraped embankment area.

Photo No.	Date
8	October 13, 2020 – December 10, 2020

Northeastern view of scraped pad area.

ATTACHMENT 4: LABORATORY ANALYTICAL RESULTS

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Certificate of Analysis Summary 675416

LT Environmental, Inc., Arvada, CO

Project Name: Muy Wayno Frac Pond (9-30-20)

Project Id: 012920149
Contact: Dan Moir
Project Location: Eddy

Date Received in Lab: Fri 10.16.2020 12:37
Report Date: 10.19.2020 14:42
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	675416-001		675416-002		675416-003		675416-004		675416-005	
	Field Id:	SS01		SS02		SS03		SS04		SS05	
	Depth:	0.25- ft		0.25- ft		0.25- ft		0.25- ft		0.25- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	10.13.2020 15:02		10.13.2020 15:06		10.13.2020 15:10		10.13.2020 15:34		10.13.2020 15:38	
BTEX by EPA 8021B	***Extracted:***	10.16.2020 17:48		10.16.2020 17:48		10.16.2020 17:48		10.16.2020 17:48		10.16.2020 17:48	
	Analyzed:	10.16.2020 22:23		10.16.2020 22:45		10.16.2020 23:08		10.16.2020 23:30		10.16.2020 23:53	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202
Toluene		<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202
Ethylbenzene		<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202
m,p-Xylenes		<0.00403	0.00403	<0.00400	0.00400	<0.00403	0.00403	<0.00401	0.00401	<0.00404	0.00404
o-Xylene		<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202
Total Xylenes		<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202
Total BTEX		<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202	<0.00200	0.00200	<0.00202	0.00202
Chloride by EPA 300	***Extracted:***	10.16.2020 17:02		10.16.2020 17:02		10.16.2020 17:02		10.16.2020 17:02		10.16.2020 17:02	
	Analyzed:	10.17.2020 02:23		10.17.2020 02:29		10.17.2020 02:36		10.17.2020 02:55		10.17.2020 03:02	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		25400	200	16200	200	16400	199	18200	200	27600	200
TPH by SW8015 Mod	***Extracted:***	10.16.2020 17:30		10.16.2020 17:30		10.16.2020 17:30		10.16.2020 17:30		10.16.2020 17:30	
	Analyzed:	10.17.2020 00:32		10.17.2020 00:53		10.17.2020 01:13		10.17.2020 01:33		10.17.2020 01:54	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<50.2	50.2	<50.3	50.3	<49.8	49.8	<50.0	50.0
Diesel Range Organics (DRO)		<49.9	49.9	<50.2	50.2	<50.3	50.3	<49.8	49.8	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<50.2	50.2	<50.3	50.3	<49.8	49.8	<50.0	50.0
Total GRO-DRO		<49.9	49.9	<50.2	50.2	<50.3	50.3	<49.8	49.8	<50.0	50.0
Total TPH		<49.9	49.9	<50.2	50.2	<50.3	50.3	<49.8	49.8	<50.0	50.0

BRL - Below Reporting Limit

Jessica Kramer

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

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Analytical Report 675416

for

LT Environmental, Inc.

Project Manager: Dan Moir

Muy Wayno Frac Pond (9-30-20)

012920149

10.19.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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10.19.2020

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

Reference: Eurofins Xenco, LLC Report No(s): **675416**
Muy Wayno Frac Pond (9-30-20)
Project Address: Eddy

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 Eurofins Xenco, LLC Report Number(s) 675416. 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 Eurofins Xenco, LLC. 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. 675416 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 Eurofins Xenco, LLC 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 Manager

A Small Business and Minority Company

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

eurofins | Environment Testing Xenco

Sample Cross Reference 675416

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond (9-30-20)

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	10.13.2020 15:02	0.25 ft	675416-001
SS02	S	10.13.2020 15:06	0.25 ft	675416-002
SS03	S	10.13.2020 15:10	0.25 ft	675416-003
SS04	S	10.13.2020 15:34	0.25 ft	675416-004
SS05	S	10.13.2020 15:38	0.25 ft	675416-005

CASE NARRATIVE

eurofins | Environment Testing Xenco

Client Name: LT Environmental, Inc.

Project Name: Muy Wayno Frac Pond (9-30-20)

Project ID: *012920149*
Work Order Number(s): *675416*

Report Date: *10.19.2020*
Date Received: *10.16.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 675416

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond (9-30-20)

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	10.16.2020 12:37
Lab Sample Id:	675416-001	Date Collected:	10.13.2020 15:02	Sample Depth:	0.25 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	10.16.2020 17:02	% Moisture:	
Seq Number:	3139977			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**25400**	200	mg/kg	10.17.2020 02:23		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH				
Analyst:	DTH	Date Prep:	10.16.2020 17:30	% Moisture:	
Seq Number:	3139959			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	10.17.2020 00:32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	10.17.2020 00:32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	10.17.2020 00:32	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	10.17.2020 00:32	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	10.17.2020 00:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	10.17.2020 00:32	
o-Terphenyl	84-15-1	104	%	70-135	10.17.2020 00:32	

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Certificate of Analytical Results 675416

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond (9-30-20)

Sample Id:	**SS01**	Matrix:	Soil	Date Received:	10.16.2020 12:37
Lab Sample Id:	675416-001	Date Collected:	10.13.2020 15:02	Sample Depth:	0.25 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	10.16.2020 17:48	% Moisture:	
Seq Number:	3139968			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	10.16.2020 22:23	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	10.16.2020 22:23	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	10.16.2020 22:23	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	10.16.2020 22:23	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	10.16.2020 22:23	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	10.16.2020 22:23	U	1
Total BTEX		<0.00202	0.00202	mg/kg	10.16.2020 22:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	107	%	70-130	10.16.2020 22:23	
4-Bromofluorobenzene	460-00-4	118	%	70-130	10.16.2020 22:23	

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Certificate of Analytical Results 675416

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond (9-30-20)

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	10.16.2020 12:37
Lab Sample Id:	675416-002	Date Collected:	10.13.2020 15:06	Sample Depth:	0.25 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	10.16.2020 17:02	% Moisture:	
Seq Number:	3139977			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**16200**	200	mg/kg	10.17.2020 02:29		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH				
Analyst:	DTH	Date Prep:	10.16.2020 17:30	% Moisture:	
Seq Number:	3139959			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	10.17.2020 00:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	10.17.2020 00:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	10.17.2020 00:53	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	10.17.2020 00:53	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	10.17.2020 00:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	10.17.2020 00:53	
o-Terphenyl	84-15-1	100	%	70-135	10.17.2020 00:53	

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Certificate of Analytical Results 675416

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond (9-30-20)

Sample Id:	**SS02**	Matrix:	Soil	Date Received:	10.16.2020 12:37
Lab Sample Id:	675416-002	Date Collected:	10.13.2020 15:06	Sample Depth:	0.25 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	10.16.2020 17:48	% Moisture:	
Seq Number:	3139968			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.16.2020 22:45	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.16.2020 22:45	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.16.2020 22:45	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	10.16.2020 22:45	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.16.2020 22:45	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.16.2020 22:45	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.16.2020 22:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	10.16.2020 22:45	
4-Bromofluorobenzene	460-00-4	114	%	70-130	10.16.2020 22:45	

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Certificate of Analytical Results 675416

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond (9-30-20)

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	10.16.2020 12:37
Lab Sample Id:	675416-003	Date Collected:	10.13.2020 15:10	Sample Depth:	0.25 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	10.16.2020 17:02	% Moisture:	
Seq Number:	3139977			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**16400**	199	mg/kg	10.17.2020 02:36		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH				
Analyst:	DTH	Date Prep:	10.16.2020 17:30	% Moisture:	
Seq Number:	3139959			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	10.17.2020 01:13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	10.17.2020 01:13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	10.17.2020 01:13	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	10.17.2020 01:13	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	10.17.2020 01:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	10.17.2020 01:13	
o-Terphenyl	84-15-1	103	%	70-135	10.17.2020 01:13	

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Certificate of Analytical Results 675416

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond (9-30-20)

Sample Id:	**SS03**	Matrix:	Soil	Date Received:	10.16.2020 12:37
Lab Sample Id:	675416-003	Date Collected:	10.13.2020 15:10	Sample Depth:	0.25 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	10.16.2020 17:48	% Moisture:	
Seq Number:	3139968			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	10.16.2020 23:08	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	10.16.2020 23:08	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	10.16.2020 23:08	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	10.16.2020 23:08	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	10.16.2020 23:08	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	10.16.2020 23:08	U	1
Total BTEX		<0.00202	0.00202	mg/kg	10.16.2020 23:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	10.16.2020 23:08	
4-Bromofluorobenzene	460-00-4	120	%	70-130	10.16.2020 23:08	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond (9-30-20)

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	10.16.2020 12:37
Lab Sample Id:	675416-004	Date Collected:	10.13.2020 15:34	Sample Depth:	0.25 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	10.16.2020 17:02	% Moisture:	
Seq Number:	3139977			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**18200**	200	mg/kg	10.17.2020 02:55		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH				
Analyst:	DTH	Date Prep:	10.16.2020 17:30	% Moisture:	
Seq Number:	3139959			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	10.17.2020 01:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	10.17.2020 01:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	10.17.2020 01:33	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	10.17.2020 01:33	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	10.17.2020 01:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	10.17.2020 01:33	
o-Terphenyl	84-15-1	104	%	70-135	10.17.2020 01:33	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond (9-30-20)

Sample Id:	**SS04**	Matrix:	Soil	Date Received:	10.16.2020 12:37
Lab Sample Id:	675416-004	Date Collected:	10.13.2020 15:34	Sample Depth:	0.25 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	10.16.2020 17:48	% Moisture:	
Seq Number:	3139968			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	10.16.2020 23:30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	10.16.2020 23:30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	10.16.2020 23:30	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	10.16.2020 23:30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	10.16.2020 23:30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	10.16.2020 23:30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	10.16.2020 23:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	119	%	70-130	10.16.2020 23:30	
1,4-Difluorobenzene	540-36-3	101	%	70-130	10.16.2020 23:30	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond (9-30-20)

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	10.16.2020 12:37
Lab Sample Id:	675416-005	Date Collected:	10.13.2020 15:38	Sample Depth:	0.25 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	10.16.2020 17:02	% Moisture:	
Seq Number:	3139977			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**27600**	200	mg/kg	10.17.2020 03:02		20

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	DTH				
Analyst:	DTH	Date Prep:	10.16.2020 17:30	% Moisture:	
Seq Number:	3139959			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	10.17.2020 01:54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	10.17.2020 01:54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	10.17.2020 01:54	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	10.17.2020 01:54	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	10.17.2020 01:54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	10.17.2020 01:54	
o-Terphenyl	84-15-1	104	%	70-135	10.17.2020 01:54	

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Certificate of Analytical Results 675416

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond (9-30-20)

Sample Id:	**SS05**	Matrix:	Soil	Date Received:	10.16.2020 12:37
Lab Sample Id:	675416-005	Date Collected:	10.13.2020 15:38	Sample Depth:	0.25 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	10.16.2020 17:48	% Moisture:	
Seq Number:	3139968			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	10.16.2020 23:53	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	10.16.2020 23:53	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	10.16.2020 23:53	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	10.16.2020 23:53	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	10.16.2020 23:53	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	10.16.2020 23:53	U	1
Total BTEX		<0.00202	0.00202	mg/kg	10.16.2020 23:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	102	%	70-130	10.16.2020 23:53	
1,4-Difluorobenzene	540-36-3	101	%	70-130	10.16.2020 23:53	

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Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample 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

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QC Summary 675416

LT Environmental, Inc.

Muy Wayno Frac Pond (9-30-20)

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3139977 — Matrix: Solid — Date Prep: 10.16.2020
MB Sample Id: 7713427-1-BLK — LCS Sample Id: 7713427-1-BKS — LCSD Sample Id: 7713427-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	259	104	258	103	90-110	0	20	mg/kg	10.17.2020 00:51	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3139977 — Matrix: Soil — Date Prep: 10.16.2020
Parent Sample Id: 675400-001 — MS Sample Id: 675400-001 S — MSD Sample Id: 675400-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<9.98	200	201	101	198	99	90-110	2	20	mg/kg	10.17.2020 01:10	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3139977 — Matrix: Soil — Date Prep: 10.16.2020
Parent Sample Id: 675416-003 — MS Sample Id: 675416-003 S — MSD Sample Id: 675416-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	16400	200	16600	100	16600	100	90-110	0	20	mg/kg	10.17.2020 02:42	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3139959 — Matrix: Solid — Date Prep: 10.16.2020
MB Sample Id: 7713463-1-BLK — LCS Sample Id: 7713463-1-BKS — LCSD Sample Id: 7713463-1-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)	<50.0	1000	960	96	988	99	70-135	3	35	mg/kg	10.16.2020 10:10	
Diesel Range Organics (DRO)	<50.0	1000	1060	106	1070	107	70-135	1	35	mg/kg	10.16.2020 10:10	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	102		118		116		70-135	%	10.16.2020 10:10
o-Terphenyl	100		105		104		70-135	%	10.16.2020 10:10

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3139959 — Matrix: Solid — Date Prep: 10.16.2020
MB Sample Id: 7713463-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	10.16.2020 09:50	

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

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

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

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QC Summary 675416

LT Environmental, Inc.

Muy Wayno Frac Pond (9-30-20)

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3139959 Matrix: Soil Date Prep: 10.16.2020
Parent Sample Id: 675356-009 MS Sample Id: 675356-009 S MSD Sample Id: 675356-009 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)	<49.9	998	1080	108	1050	105	70-135	3	35	mg/kg	10.16.2020 19:04	
Diesel Range Organics (DRO)	<49.9	998	1180	118	1140	114	70-135	3	35	mg/kg	10.16.2020 19:04	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	133		130		70-135	%	10.16.2020 19:04
o-Terphenyl	114		114		70-135	%	10.16.2020 19:04

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3139968 Matrix: Solid Date Prep: 10.16.2020
MB Sample Id: 7713419-1-BLK LCS Sample Id: 7713419-1-BKS LCSD Sample Id: 7713419-1-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	0.101	101	0.103	103	70-130	2	35	mg/kg	10.16.2020 13:44	
Toluene	<0.00200	0.100	0.0959	96	0.0979	98	70-130	2	35	mg/kg	10.16.2020 13:44	
Ethylbenzene	<0.00200	0.100	0.0998	100	0.104	104	71-129	4	35	mg/kg	10.16.2020 13:44	
m,p-Xylenes	<0.00400	0.200	0.204	102	0.211	106	70-135	3	35	mg/kg	10.16.2020 13:44	
o-Xylene	<0.00200	0.100	0.0984	98	0.101	101	71-133	3	35	mg/kg	10.16.2020 13:44	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		102		102		70-130	%	10.16.2020 13:44
4-Bromofluorobenzene	116		113		113		70-130	%	10.16.2020 13:44

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3139968 Matrix: Soil Date Prep: 10.16.2020
Parent Sample Id: 675356-001 MS Sample Id: 675356-001 S MSD Sample Id: 675356-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.108	108	0.113	113	70-130	5	35	mg/kg	10.16.2020 14:29	
Toluene	<0.00200	0.0998	0.0998	100	0.106	106	70-130	6	35	mg/kg	10.16.2020 14:29	
Ethylbenzene	<0.00200	0.0998	0.106	106	0.112	112	71-129	6	35	mg/kg	10.16.2020 14:29	
m,p-Xylenes	<0.00399	0.200	0.214	107	0.230	116	70-135	7	35	mg/kg	10.16.2020 14:29	
o-Xylene	<0.00200	0.0998	0.106	106	0.112	112	71-133	6	35	mg/kg	10.16.2020 14:29	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		105		70-130	%	10.16.2020 14:29
4-Bromofluorobenzene	108		110		70-130	%	10.16.2020 14:29

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

XENCO LABORATORIES

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
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

Work Order No: 6754166

www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	
Phone:	(432) 236-3849	Email:	wmather@ltenv.com, dmoir@ltenv.com

Work Order Comments

Program: UST/PST ☐ RP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:
Reporting:Level II ☐ Level III ☐ ST/UST ☐ RP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Muy Wayno Frac Pond (9-30-20)	Turn Around	
Project Number:	12920149	Routine	☑
P.O. Number:	Eddy	Rush:	
Sampler's Name:	William Mather	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	3.7/3.5	Thermometer ID	
Received Intact:	(Yes) No	TNM007	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	5

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
SS01	s	10/13/2020	15:02	0.25'	1	x	x	x	Discrete
SS02	s	10/13/2020	15:06	0.25'	1	x	x	x	Discrete
SS03	s	10/13/2020	15:10	0.25'	1	x	x	x	Discrete
SS04	s	10/13/2020	15:34	0.25'	1	x	x	x	Discrete
SS05	s	10/13/2020	15:38	0.25'	1	x	x	x	Discrete

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

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
1			10/6/20 12:37	2		
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 10.16.2020 12.37.00 PM

Work Order #: 675416

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

Temperature Measuring device used : T_NM_007

Sample Receipt Checklist		Comments
#1 *Temperature of cooler(s)?	3.5	
#2 *Shipping container in good condition?	**Yes**	
#3 *Samples received on ice?	**Yes**	
#4 *Custody Seals intact on shipping container/ cooler?	**Yes**	
#5 Custody Seals intact on sample bottles?	**Yes**	
#6*Custody Seals Signed and dated?	**Yes**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**No**	
#9 Chain of Custody signed when relinquished/ received?	**Yes**	
#10 Chain of Custody agrees with sample labels/matrix?	**Yes**	
#11 Container label(s) legible and intact?	**Yes**	
#12 Samples in proper container/ bottle?	**Yes**	Samples received in bulk containers.
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**No**	
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Cloe Clifton Date: 10.16.2020

Checklist reviewed by: Jessica Kramer Date: 10.19.2020

Jessica Kramer

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Certificate of Analysis Summary 680480

LT Environmental, Inc., Arvada, CO

Project Name: Muy Wayno Frac Pond

Project Id: TE012920149
Contact: Dan Moir
Project Location:

Date Received in Lab: Wed 12.09.2020 16:32
Report Date: 01.29.2021 08:57
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	680480-001		680480-002		680480-003		680480-004		680480-005		680480-006	
	Field Id:	FS01		FS02		FS03		FS04		FS05		FS06	
	Depth:	2- ft		2- ft		2- ft		2- ft		2- ft		2- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	12.09.2020 09:50		12.09.2020 10:00		12.09.2020 10:10		12.09.2020 10:20		12.09.2020 10:30		12.09.2020 10:40	
BTEX by EPA 8021B	***Extracted:***	12.10.2020 09:57		12.10.2020 09:57		12.10.2020 09:57		12.10.2020 09:57		12.10.2020 09:57		12.10.2020 09:57	
	Analyzed:	12.10.2020 14:04		12.10.2020 14:27		12.10.2020 14:49		12.10.2020 15:11		12.10.2020 15:34		12.10.2020 15:56	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200
Toluene		<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200
Ethylbenzene		<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200
m,p-Xylenes		<0.00398	0.00398	<0.00398	0.00398	<0.00399	0.00399	<0.00396	0.00396	<0.00398	0.00398	<0.00399	0.00399
o-Xylene		<0.00199	0.00199	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200
Total Xylenes		<0.001990	0.001990	<0.001990	0.001990	<0.002000	0.002000	<0.001980	0.001980	<0.001990	0.001990	<0.002000	0.002000
Total BTEX		<0.001990	0.001990	<0.001990	0.001990	<0.002000	0.002000	<0.001980	0.001980	<0.001990	0.001990	<0.002000	0.002000
Chloride by EPA 300	***Extracted:***	12.10.2020 08:38		12.10.2020 08:38		12.10.2020 08:38		12.10.2020 08:38		12.10.2020 08:38		12.10.2020 08:38	
	Analyzed:	12.10.2020 14:48		12.10.2020 14:53		12.10.2020 14:59		12.10.2020 15:05		12.10.2020 15:10		12.10.2020 15:16	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		422	9.90	346	10.0	328	9.98	372	9.94	200	9.96	166	9.98
TPH by SW8015 Mod	***Extracted:***	12.10.2020 12:00		12.10.2020 12:00		12.10.2020 12:00		12.10.2020 12:00		12.10.2020 12:00		12.10.2020 12:00	
	Analyzed:	12.10.2020 14:58		12.10.2020 15:59		12.10.2020 16:19		12.10.2020 16:40		12.10.2020 17:00		12.10.2020 17:20	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<49.8	49.8	<50.1	50.1	<49.9	49.9	<49.8	49.8	<50.0	50.0
Diesel Range Organics (DRO)		<50.0	50.0	<49.8	49.8	<50.1	50.1	<49.9	49.9	<49.8	49.8	<50.0	50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.8	49.8	<50.1	50.1	<49.9	49.9	<49.8	49.8	<50.0	50.0
Total GRO-DRO		<50.00	50.00	<49.80	49.80	<50.10	50.10	<49.90	49.90	<49.80	49.80	<50.00	50.00
Total TPH		<50.00	50.00	<49.80	49.80	<50.10	50.10	<49.90	49.90	<49.80	49.80	<50.00	50.00

BRL - Below Reporting Limit

Jessica Kramer

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Certificate of Analysis Summary 680480

LT Environmental, Inc., Arvada, CO

Project Name: Muy Wayno Frac Pond

Project Id: TE012920149
Contact: Dan Moir
Project Location:

Date Received in Lab: Wed 12.09.2020 16:32
Report Date: 01.29.2021 08:57
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	680480-007		680480-008		680480-009		680480-010		680480-011		680480-012	
	Field Id:	FS07		FS08		FS09		FS10		FS11		FS12	
	Depth:	2- ft		2- ft		2- ft		2- ft		2- ft		2- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	12.09.2020 10:50		12.09.2020 11:00		12.09.2020 12:00		12.09.2020 12:10		12.09.2020 12:20		12.09.2020 12:30	
BTEX by EPA 8021B	***Extracted:***	12.10.2020 09:57		12.10.2020 09:57		12.10.2020 09:57		12.10.2020 09:57		12.10.2020 09:57		12.10.2020 09:57	
	Analyzed:	12.10.2020 16:19		12.10.2020 16:41		12.10.2020 17:03		12.10.2020 17:26		12.10.2020 18:44		12.10.2020 19:06	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00202	0.00202	<0.00201	0.00201	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198
Toluene		<0.00202	0.00202	<0.00201	0.00201	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198
Ethylbenzene		<0.00202	0.00202	<0.00201	0.00201	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198
m,p-Xylenes		<0.00403	0.00403	<0.00402	0.00402	<0.00401	0.00401	<0.00398	0.00398	<0.00399	0.00399	<0.00396	0.00396
o-Xylene		<0.00202	0.00202	<0.00201	0.00201	<0.00200	0.00200	<0.00199	0.00199	<0.00200	0.00200	<0.00198	0.00198
Total Xylenes		<0.002020	0.002020	<0.002010	0.002010	<0.002000	0.002000	<0.001990	0.001990	<0.002000	0.002000	<0.001980	0.001980
Total BTEX		<0.002020	0.002020	<0.002010	0.002010	<0.002000	0.002000	<0.001990	0.001990	<0.002000	0.002000	<0.001980	0.001980
Chloride by EPA 300	***Extracted:***	12.10.2020 08:38		12.10.2020 10:43		12.10.2020 10:43		12.10.2020 10:43		12.10.2020 10:43		12.10.2020 10:43	
	Analyzed:	12.10.2020 15:21		12.10.2020 15:55		12.10.2020 16:12		12.10.2020 16:17		12.10.2020 16:23		12.10.2020 16:29	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		196	9.92	193	9.90	24.2	10.0	37.1	10.0	39.1	9.96	38.9	9.98
TPH by SW8015 Mod	***Extracted:***	12.10.2020 12:00		12.10.2020 12:00		12.10.2020 12:00		12.10.2020 12:00		12.10.2020 12:00		12.10.2020 12:00	
	Analyzed:	12.10.2020 17:41		12.10.2020 18:01		12.10.2020 18:21		12.10.2020 18:42		12.10.2020 19:23		12.11.2020 10:07	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<50.3	50.3	<50.2	50.2	<50.2	50.2	<49.9	49.9	52.9	50.0
Diesel Range Organics (DRO)		<50.0	50.0	<50.3	50.3	<50.2	50.2	<50.2	50.2	<49.9	49.9	629	50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<50.3	50.3	<50.2	50.2	<50.2	50.2	<49.9	49.9	541	50.0
Total GRO-DRO		<50.00	50.00	<50.30	50.30	<50.20	50.20	<50.20	50.20	<49.90	49.90	681.9	50.00
Total TPH		<50.00	50.00	<50.30	50.30	<50.20	50.20	<50.20	50.20	<49.90	49.90	1223	50.00

BRL - Below Reporting Limit

Jessica Kramer

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Certificate of Analysis Summary 680480

LT Environmental, Inc., Arvada, CO

Project Name: Muy Wayno Frac Pond

Project Id: TE012920149
Contact: Dan Moir
Project Location:

Date Received in Lab: Wed 12.09.2020 16:32
Report Date: 01.29.2021 08:57
Project Manager: Jessica Kramer

Analysis Requested		680480-013		680480-014		680480-015		680480-016		680480-017		680480-018	
	Field Id:	FS13		FS14		FS15		FS16		FS17		PH05	
	Depth:	2- ft		3- ft		3- ft		3- ft		0.5- ft		0.5- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	12.09.2020 12:40		12.09.2020 12:50		12.09.2020 13:00		12.09.2020 13:10		12.09.2020 14:50		12.09.2020 15:00	
BTEX by EPA 8021B	*Extracted:*	12.10.2020 09:57		12.10.2020 09:57		12.10.2020 09:57		12.10.2020 09:57		12.10.2020 09:57		12.10.2020 09:57	
	Analyzed:	12.10.2020 19:28		12.10.2020 19:51		12.10.2020 20:13		12.10.2020 20:36		12.10.2020 20:58		12.10.2020 21:20	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00202	0.00202	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201
Toluene		<0.00202	0.00202	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201
Ethylbenzene		<0.00202	0.00202	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201
m,p-Xylenes		<0.00404	0.00404	<0.00397	0.00397	<0.00400	0.00400	<0.00399	0.00399	<0.00402	0.00402	<0.00402	0.00402
o-Xylene		<0.00202	0.00202	<0.00198	0.00198	<0.00200	0.00200	<0.00200	0.00200	<0.00201	0.00201	<0.00201	0.00201
Total Xylenes		<0.002020	0.002020	<0.001980	0.001980	<0.002000	0.002000	<0.002000	0.002000	<0.002010	0.002010	<0.002010	0.002010
Total BTEX		<0.002020	0.002020	<0.001980	0.001980	<0.002000	0.002000	<0.002000	0.002000	<0.002010	0.002010	<0.002010	0.002010
Chloride by EPA 300	*Extracted:*	12.10.2020 10:43		12.10.2020 10:43		12.10.2020 10:43		12.10.2020 10:43		12.10.2020 10:43		12.10.2020 10:43	
	Analyzed:	12.10.2020 16:45		12.10.2020 16:51		12.10.2020 16:56		12.10.2020 17:02		12.10.2020 17:08		12.10.2020 17:13	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		84.9	9.96	254	9.98	516	9.96	483	9.98	4220	49.6	6820	49.8
TPH by SW8015 Mod	*Extracted:*	12.10.2020 12:00		12.10.2020 12:00		12.10.2020 12:00		12.10.2020 12:00		12.10.2020 12:00		12.10.2020 12:00	
	Analyzed:	12.11.2020 10:26		12.11.2020 10:46		12.11.2020 11:07		12.11.2020 11:27		12.11.2020 11:47		12.11.2020 12:07	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<50.0	50.0	<50.3	50.3	<49.9	49.9	<50.0	50.0	<50.1	50.1
Diesel Range Organics (DRO)		69.0	50.0	<50.0	50.0	<50.3	50.3	<49.9	49.9	<50.0	50.0	<50.1	50.1
Motor Oil Range Hydrocarbons (MRO)		90.7	50.0	156	50.0	61.9	50.3	<49.9	49.9	<50.0	50.0	<50.1	50.1
Total GRO-DRO		69.00	50.00	<50.00	50.00	<50.30	50.30	<49.90	49.90	<50.00	50.00	<50.10	50.10
Total TPH		159.7	50.00	156.0	50.00	61.90	50.30	<49.90	49.90	<50.00	50.00	<50.10	50.10

BRL - Below Reporting Limit

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Jessica Kramer

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Analytical Report 680480

for

LT Environmental, Inc.

Project Manager: Dan Moir

Muy Wayno Frac Pond

TE012920149

01.29.2021

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-24)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-20-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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01.29.2021

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

Reference: Eurofins Xenco, LLC Report No(s): **680480**
Muy Wayno Frac Pond
Project Address:

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 680480. 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 Eurofins Xenco, LLC. 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. 680480 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 Eurofins Xenco, LLC 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 Manager

A Small Business and Minority Company

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

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Sample Cross Reference 680480

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	12.09.2020 09:50	2 ft	680480-001
FS02	S	12.09.2020 10:00	2 ft	680480-002
FS03	S	12.09.2020 10:10	2 ft	680480-003
FS04	S	12.09.2020 10:20	2 ft	680480-004
FS05	S	12.09.2020 10:30	2 ft	680480-005
FS06	S	12.09.2020 10:40	2 ft	680480-006
FS07	S	12.09.2020 10:50	2 ft	680480-007
FS08	S	12.09.2020 11:00	2 ft	680480-008
FS09	S	12.09.2020 12:00	2 ft	680480-009
FS10	S	12.09.2020 12:10	2 ft	680480-010
FS11	S	12.09.2020 12:20	2 ft	680480-011
FS12	S	12.09.2020 12:30	2 ft	680480-012
FS13	S	12.09.2020 12:40	2 ft	680480-013
FS14	S	12.09.2020 12:50	3 ft	680480-014
FS15	S	12.09.2020 13:00	3 ft	680480-015
FS16	S	12.09.2020 13:10	3 ft	680480-016
FS17	S	12.09.2020 14:50	0.5 ft	680480-017
PH05	S	12.09.2020 15:00	0.5 ft	680480-018

CASE NARRATIVE

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Client Name: LT Environmental, Inc.

Project Name: Muy Wayno Frac Pond

Project ID: *TE012920149*
Work Order Number(s): *680480*

Report Date: *01.29.2021*
Date Received: *12.09.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 680480

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-001	Date Collected:	12.09.2020 09:50	Sample Depth:	2 ft

Analytical Method: Chloride by EPA 300 — Prep Method: E300P

Tech: MAB

Analyst: MAB — Date Prep: 12.10.2020 08:38 — % Moisture:

Seq Number: 3144560 — Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**422**	9.90	mg/kg	12.10.2020 14:48		1

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P

Tech: CAC

Analyst: CAC — Date Prep: 12.10.2020 12:00 — % Moisture:

Seq Number: 3144740 — Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.10.2020 14:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.10.2020 14:58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.10.2020 14:58	U	1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.10.2020 14:58	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.10.2020 14:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	12.10.2020 14:58	
o-Terphenyl	84-15-1	107	%	70-135	12.10.2020 14:58	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS01**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-001	Date Collected:	12.09.2020 09:50	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 09:57	% Moisture:	
Seq Number:	3144556			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.10.2020 14:04	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.10.2020 14:04	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.10.2020 14:04	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.10.2020 14:04	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.10.2020 14:04	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.10.2020 14:04	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.10.2020 14:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.10.2020 14:04	
4-Bromofluorobenzene	460-00-4	90	%	70-130	12.10.2020 14:04	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-002	Date Collected:	12.09.2020 10:00	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 08:38	% Moisture:	
Seq Number:	3144560			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**346**	10.0	mg/kg	12.10.2020 14:53		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144740			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.10.2020 15:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.10.2020 15:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.10.2020 15:59	U	1
Total GRO-DRO	PHC628	<49.80	49.80	mg/kg	12.10.2020 15:59	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	12.10.2020 15:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.10.2020 15:59	
o-Terphenyl	84-15-1	106	%	70-135	12.10.2020 15:59	

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Certificate of Analytical Results 680480

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS02**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-002	Date Collected:	12.09.2020 10:00	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 09:57	% Moisture:	
Seq Number:	3144556			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.10.2020 14:27	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.10.2020 14:27	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.10.2020 14:27	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.10.2020 14:27	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.10.2020 14:27	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.10.2020 14:27	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.10.2020 14:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	12.10.2020 14:27	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.10.2020 14:27	

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Certificate of Analytical Results 680480

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-003	Date Collected:	12.09.2020 10:10	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 08:38	% Moisture:	
Seq Number:	3144560			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**328**	9.98	mg/kg	12.10.2020 14:59		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144740			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.10.2020 16:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.10.2020 16:19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.10.2020 16:19	U	1
Total GRO-DRO	PHC628	<50.10	50.10	mg/kg	12.10.2020 16:19	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.10.2020 16:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	12.10.2020 16:19	
o-Terphenyl	84-15-1	94	%	70-135	12.10.2020 16:19	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS03**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-003	Date Collected:	12.09.2020 10:10	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 09:57	% Moisture:	
Seq Number:	3144556			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.10.2020 14:49	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.10.2020 14:49	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.10.2020 14:49	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.10.2020 14:49	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.10.2020 14:49	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.10.2020 14:49	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.10.2020 14:49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.10.2020 14:49	
4-Bromofluorobenzene	460-00-4	93	%	70-130	12.10.2020 14:49	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-004	Date Collected:	12.09.2020 10:20	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 08:38	% Moisture:	
Seq Number:	3144560			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**372**	9.94	mg/kg	12.10.2020 15:05		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144740			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.10.2020 16:40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.10.2020 16:40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.10.2020 16:40	U	1
Total GRO-DRO	PHC628	<49.90	49.90	mg/kg	12.10.2020 16:40	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.10.2020 16:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	12.10.2020 16:40	
o-Terphenyl	84-15-1	110	%	70-135	12.10.2020 16:40	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS04**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-004	Date Collected:	12.09.2020 10:20	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 09:57	% Moisture:	
Seq Number:	3144556			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.10.2020 15:11	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.10.2020 15:11	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.10.2020 15:11	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.10.2020 15:11	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.10.2020 15:11	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.10.2020 15:11	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.10.2020 15:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	12.10.2020 15:11	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.10.2020 15:11	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-005	Date Collected:	12.09.2020 10:30	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 08:38	% Moisture:	
Seq Number:	3144560			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**200**	9.96	mg/kg	12.10.2020 15:10		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144740			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.10.2020 17:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.10.2020 17:00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.10.2020 17:00	U	1
Total GRO-DRO	PHC628	<49.80	49.80	mg/kg	12.10.2020 17:00	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	12.10.2020 17:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	12.10.2020 17:00	
o-Terphenyl	84-15-1	96	%	70-135	12.10.2020 17:00	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS05**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-005	Date Collected:	12.09.2020 10:30	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 09:57	% Moisture:	
Seq Number:	3144556			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.10.2020 15:34	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.10.2020 15:34	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.10.2020 15:34	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.10.2020 15:34	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.10.2020 15:34	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.10.2020 15:34	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.10.2020 15:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.10.2020 15:34	
4-Bromofluorobenzene	460-00-4	91	%	70-130	12.10.2020 15:34	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-006	Date Collected:	12.09.2020 10:40	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 08:38	% Moisture:	
Seq Number:	3144560			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**166**	9.98	mg/kg	12.10.2020 15:16		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144740			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.10.2020 17:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.10.2020 17:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.10.2020 17:20	U	1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.10.2020 17:20	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.10.2020 17:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	12.10.2020 17:20	
o-Terphenyl	84-15-1	101	%	70-135	12.10.2020 17:20	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS06**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-006	Date Collected:	12.09.2020 10:40	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 09:57	% Moisture:	
Seq Number:	3144556			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.10.2020 15:56	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.10.2020 15:56	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.10.2020 15:56	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.10.2020 15:56	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.10.2020 15:56	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.10.2020 15:56	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.10.2020 15:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	90	%	70-130	12.10.2020 15:56	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.10.2020 15:56	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS07**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-007	Date Collected:	12.09.2020 10:50	Sample Depth:	2 ft

Analytical Method: Chloride by EPA 300 — Prep Method: E300P

Tech: MAB
Analyst: MAB
Seq Number: 3144560

Date Prep: 12.10.2020 08:38

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**196**	9.92	mg/kg	12.10.2020 15:21		1

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P

Tech: CAC
Analyst: CAC
Seq Number: 3144740

Date Prep: 12.10.2020 12:00

% Moisture:
Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.10.2020 17:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.10.2020 17:41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.10.2020 17:41	U	1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.10.2020 17:41	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.10.2020 17:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	12.10.2020 17:41	
o-Terphenyl	84-15-1	106	%	70-135	12.10.2020 17:41	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS07**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-007	Date Collected:	12.09.2020 10:50	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 09:57	% Moisture:	
Seq Number:	3144556			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.10.2020 16:19	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.10.2020 16:19	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.10.2020 16:19	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.10.2020 16:19	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.10.2020 16:19	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.10.2020 16:19	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.10.2020 16:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.10.2020 16:19	
4-Bromofluorobenzene	460-00-4	91	%	70-130	12.10.2020 16:19	

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Sample Id:	**FS08**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-008	Date Collected:	12.09.2020 11:00	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:43	% Moisture:	
Seq Number:	3144562			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**193**	9.90	mg/kg	12.10.2020 15:55		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144740			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.10.2020 18:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.10.2020 18:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.10.2020 18:01	U	1
Total GRO-DRO	PHC628	<50.30	50.30	mg/kg	12.10.2020 18:01	U	1
Total TPH	PHC635	<50.30	50.30	mg/kg	12.10.2020 18:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	12.10.2020 18:01	
o-Terphenyl	84-15-1	110	%	70-135	12.10.2020 18:01	

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Sample Id:	**FS08**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-008	Date Collected:	12.09.2020 11:00	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 09:57	% Moisture:	
Seq Number:	3144556			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.10.2020 16:41	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.10.2020 16:41	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.10.2020 16:41	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.10.2020 16:41	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.10.2020 16:41	U	1
Total Xylenes	1330-20-7	<0.002010	0.002010	mg/kg	12.10.2020 16:41	U	1
Total BTEX		<0.002010	0.002010	mg/kg	12.10.2020 16:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	90	%	70-130	12.10.2020 16:41	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.10.2020 16:41	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS09**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-009	Date Collected:	12.09.2020 12:00	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:43	% Moisture:	
Seq Number:	3144562			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**24.2**	10.0	mg/kg	12.10.2020 16:12		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144740			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.10.2020 18:21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.10.2020 18:21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.10.2020 18:21	U	1
Total GRO-DRO	PHC628	<50.20	50.20	mg/kg	12.10.2020 18:21	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.10.2020 18:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	12.10.2020 18:21	
o-Terphenyl	84-15-1	112	%	70-135	12.10.2020 18:21	

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Sample Id:	**FS09**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-009	Date Collected:	12.09.2020 12:00	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 09:57	% Moisture:	
Seq Number:	3144556			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.10.2020 17:03	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.10.2020 17:03	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.10.2020 17:03	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.10.2020 17:03	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.10.2020 17:03	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.10.2020 17:03	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.10.2020 17:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.10.2020 17:03	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.10.2020 17:03	

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Muy Wayno Frac Pond

Sample Id:	**FS10**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-010	Date Collected:	12.09.2020 12:10	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:43	% Moisture:	
Seq Number:	3144562			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**37.1**	10.0	mg/kg	12.10.2020 16:17		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144740			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.10.2020 18:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.10.2020 18:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.10.2020 18:42	U	1
Total GRO-DRO	PHC628	<50.20	50.20	mg/kg	12.10.2020 18:42	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.10.2020 18:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	12.10.2020 18:42	
o-Terphenyl	84-15-1	116	%	70-135	12.10.2020 18:42	

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Sample Id:	**FS10**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-010	Date Collected:	12.09.2020 12:10	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 09:57	% Moisture:	
Seq Number:	3144556			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.10.2020 17:26	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.10.2020 17:26	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.10.2020 17:26	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.10.2020 17:26	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.10.2020 17:26	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.10.2020 17:26	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.10.2020 17:26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.10.2020 17:26	
4-Bromofluorobenzene	460-00-4	92	%	70-130	12.10.2020 17:26	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS11**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-011	Date Collected:	12.09.2020 12:20	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:43	% Moisture:	
Seq Number:	3144562			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**39.1**	9.96	mg/kg	12.10.2020 16:23		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144740			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.10.2020 19:23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.10.2020 19:23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.10.2020 19:23	U	1
Total GRO-DRO	PHC628	<49.90	49.90	mg/kg	12.10.2020 19:23	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.10.2020 19:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	12.10.2020 19:23	
o-Terphenyl	84-15-1	114	%	70-135	12.10.2020 19:23	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS11**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-011	Date Collected:	12.09.2020 12:20	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 09:57	% Moisture:	
Seq Number:	3144556			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.10.2020 18:44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.10.2020 18:44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.10.2020 18:44	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.10.2020 18:44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.10.2020 18:44	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.10.2020 18:44	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.10.2020 18:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	70-130	12.10.2020 18:44	
1,4-Difluorobenzene	540-36-3	96	%	70-130	12.10.2020 18:44	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS12**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-012	Date Collected:	12.09.2020 12:30	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:43	% Moisture:	
Seq Number:	3144562			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**38.9**	9.98	mg/kg	12.10.2020 16:29		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144740			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**52.9**	50.0	mg/kg	12.11.2020 10:07		1
Diesel Range Organics (DRO)	C10C28DRO	**629**	50.0	mg/kg	12.11.2020 10:07		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**541**	50.0	mg/kg	12.11.2020 10:07		1
Total GRO-DRO	PHC628	**681.9**	50.00	mg/kg	12.11.2020 10:07		1
Total TPH	PHC635	**1223**	50.00	mg/kg	12.11.2020 10:07		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	12.11.2020 10:07	
o-Terphenyl	84-15-1	108	%	70-135	12.11.2020 10:07	

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Sample Id:	**FS12**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-012	Date Collected:	12.09.2020 12:30	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 09:57	% Moisture:	
Seq Number:	3144556			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.10.2020 19:06	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.10.2020 19:06	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.10.2020 19:06	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.10.2020 19:06	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.10.2020 19:06	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.10.2020 19:06	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.10.2020 19:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.10.2020 19:06	
4-Bromofluorobenzene	460-00-4	90	%	70-130	12.10.2020 19:06	

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Muy Wayno Frac Pond

Sample Id:	**FS13**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-013	Date Collected:	12.09.2020 12:40	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:43	% Moisture:	
Seq Number:	3144562			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**84.9**	9.96	mg/kg	12.10.2020 16:45		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144740			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.11.2020 10:26	U	1
Diesel Range Organics (DRO)	C10C28DRO	**69.0**	50.0	mg/kg	12.11.2020 10:26		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**90.7**	50.0	mg/kg	12.11.2020 10:26		1
Total GRO-DRO	PHC628	**69.00**	50.00	mg/kg	12.11.2020 10:26		1
Total TPH	PHC635	**159.7**	50.00	mg/kg	12.11.2020 10:26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	12.11.2020 10:26	
o-Terphenyl	84-15-1	110	%	70-135	12.11.2020 10:26	

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Muy Wayno Frac Pond

Sample Id:	**FS13**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-013	Date Collected:	12.09.2020 12:40	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 09:57	% Moisture:	
Seq Number:	3144556			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.10.2020 19:28	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.10.2020 19:28	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.10.2020 19:28	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.10.2020 19:28	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.10.2020 19:28	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.10.2020 19:28	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.10.2020 19:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	12.10.2020 19:28	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.10.2020 19:28	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS14**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-014	Date Collected:	12.09.2020 12:50	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:43	% Moisture:	
Seq Number:	3144562			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**254**	9.98	mg/kg	12.10.2020 16:51		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144740			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.11.2020 10:46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.11.2020 10:46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**156**	50.0	mg/kg	12.11.2020 10:46		1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.11.2020 10:46	U	1
Total TPH	PHC635	**156.0**	50.00	mg/kg	12.11.2020 10:46		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	12.11.2020 10:46	
o-Terphenyl	84-15-1	106	%	70-135	12.11.2020 10:46	

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Certificate of Analytical Results 680480

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS14**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-014	Date Collected:	12.09.2020 12:50	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 09:57	% Moisture:	
Seq Number:	3144556			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.10.2020 19:51	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.10.2020 19:51	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.10.2020 19:51	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.10.2020 19:51	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.10.2020 19:51	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.10.2020 19:51	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.10.2020 19:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	70-130	12.10.2020 19:51	
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.10.2020 19:51	

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Certificate of Analytical Results 680480

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS15**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-015	Date Collected:	12.09.2020 13:00	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:43	% Moisture:	
Seq Number:	3144562			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**516**	9.96	mg/kg	12.10.2020 16:56		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144740			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.11.2020 11:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.11.2020 11:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**61.9**	50.3	mg/kg	12.11.2020 11:07		1
Total GRO-DRO	PHC628	<50.30	50.30	mg/kg	12.11.2020 11:07	U	1
Total TPH	PHC635	**61.90**	50.30	mg/kg	12.11.2020 11:07		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	12.11.2020 11:07	
o-Terphenyl	84-15-1	118	%	70-135	12.11.2020 11:07	

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Certificate of Analytical Results 680480

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS15**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-015	Date Collected:	12.09.2020 13:00	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 09:57	% Moisture:	
Seq Number:	3144556			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.10.2020 20:13	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.10.2020 20:13	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.10.2020 20:13	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.10.2020 20:13	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.10.2020 20:13	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.10.2020 20:13	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.10.2020 20:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	91	%	70-130	12.10.2020 20:13	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.10.2020 20:13	

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Certificate of Analytical Results 680480

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS16**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-016	Date Collected:	12.09.2020 13:10	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:43	% Moisture:	
Seq Number:	3144562			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**483**	9.98	mg/kg	12.10.2020 17:02		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144740			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.11.2020 11:27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.11.2020 11:27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.11.2020 11:27	U	1
Total GRO-DRO	PHC628	<49.90	49.90	mg/kg	12.11.2020 11:27	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.11.2020 11:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.11.2020 11:27	
o-Terphenyl	84-15-1	108	%	70-135	12.11.2020 11:27	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS16**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-016	Date Collected:	12.09.2020 13:10	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 09:57	% Moisture:	
Seq Number:	3144556			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.10.2020 20:36	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.10.2020 20:36	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.10.2020 20:36	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.10.2020 20:36	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.10.2020 20:36	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.10.2020 20:36	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.10.2020 20:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.10.2020 20:36	
4-Bromofluorobenzene	460-00-4	96	%	70-130	12.10.2020 20:36	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS17**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-017	Date Collected:	12.09.2020 14:50	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:43	% Moisture:	
Seq Number:	3144562			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**4220**	49.6	mg/kg	12.10.2020 17:08		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144740			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.11.2020 11:47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.11.2020 11:47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.11.2020 11:47	U	1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.11.2020 11:47	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.11.2020 11:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	12.11.2020 11:47	
o-Terphenyl	84-15-1	108	%	70-135	12.11.2020 11:47	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**FS17**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-017	Date Collected:	12.09.2020 14:50	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 09:57	% Moisture:	
Seq Number:	3144556			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.10.2020 20:58	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.10.2020 20:58	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.10.2020 20:58	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.10.2020 20:58	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.10.2020 20:58	U	1
Total Xylenes	1330-20-7	<0.002010	0.002010	mg/kg	12.10.2020 20:58	U	1
Total BTEX		<0.002010	0.002010	mg/kg	12.10.2020 20:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.10.2020 20:58	
4-Bromofluorobenzene	460-00-4	92	%	70-130	12.10.2020 20:58	

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Certificate of Analytical Results 680480

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**PH05**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-018	Date Collected:	12.09.2020 15:00	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:43	% Moisture:	
Seq Number:	3144562			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6820**	49.8	mg/kg	12.10.2020 17:13		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144740			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.11.2020 12:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.11.2020 12:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.11.2020 12:07	U	1
Total GRO-DRO	PHC628	<50.10	50.10	mg/kg	12.11.2020 12:07	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.11.2020 12:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	12.11.2020 12:07	
o-Terphenyl	84-15-1	114	%	70-135	12.11.2020 12:07	

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Certificate of Analytical Results 680480

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**PH05**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680480-018	Date Collected:	12.09.2020 15:00	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 09:57	% Moisture:	
Seq Number:	3144556			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.10.2020 21:20	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.10.2020 21:20	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.10.2020 21:20	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.10.2020 21:20	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.10.2020 21:20	U	1
Total Xylenes	1330-20-7	<0.002010	0.002010	mg/kg	12.10.2020 21:20	U	1
Total BTEX		<0.002010	0.002010	mg/kg	12.10.2020 21:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	96	%	70-130	12.10.2020 21:20	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.10.2020 21:20	

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Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample 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

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QC Summary 680480

LT Environmental, Inc.

Muy Wayno Frac Pond

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3144560 — Matrix: Solid — Date Prep: 12.10.2020
MB Sample Id: 7716881-1-BLK — LCS Sample Id: 7716881-1-BKS — LCSD Sample Id: 7716881-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	234	94	235	94	90-110	0	20	mg/kg	12.10.2020 12:40	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3144562 — Matrix: Solid — Date Prep: 12.10.2020
MB Sample Id: 7716882-1-BLK — LCS Sample Id: 7716882-1-BKS — LCSD Sample Id: 7716882-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	237	95	236	94	90-110	0	20	mg/kg	12.10.2020 15:44	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3144560 — Matrix: Soil — Date Prep: 12.10.2020
Parent Sample Id: 680475-001 — MS Sample Id: 680475-001 S — MSD Sample Id: 680475-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	502	199	686	92	684	90	90-110	0	20	mg/kg	12.10.2020 12:56	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3144560 — Matrix: Soil — Date Prep: 12.10.2020
Parent Sample Id: 680478-002 — MS Sample Id: 680478-002 S — MSD Sample Id: 680478-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6220	201	6420	100	6410	95	90-110	0	20	mg/kg	12.10.2020 14:14	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3144562 — Matrix: Soil — Date Prep: 12.10.2020
Parent Sample Id: 680480-008 — MS Sample Id: 680480-008 S — MSD Sample Id: 680480-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	193	199	382	95	384	96	90-110	1	20	mg/kg	12.10.2020 16:00	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3144562 — Matrix: Soil — Date Prep: 12.10.2020
Parent Sample Id: 680480-018 — MS Sample Id: 680480-018 S — MSD Sample Id: 680480-018 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6820	200	7010	95	7020	100	90-110	0	20	mg/kg	12.10.2020 17:19	

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

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

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

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QC Summary 680480

LT Environmental, Inc.

Muy Wayno Frac Pond

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3144740 — Matrix: Solid — Date Prep: 12.10.2020
MB Sample Id: 7716872-1-BLK — LCS Sample Id: 7716872-1-BKS — LCSD Sample Id: 7716872-1-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)	<50.0	1000	1040	104	1110	111	70-135	7	35	mg/kg	12.10.2020 14:18	
Diesel Range Organics (DRO)	<50.0	1000	1080	108	1090	109	70-135	1	35	mg/kg	12.10.2020 14:18	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	98		101		108		70-135	%	12.10.2020 14:18
o-Terphenyl	93		105		108		70-135	%	12.10.2020 14:18

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3144740 — Matrix: Solid — Date Prep: 12.10.2020
MB Sample Id: 7716872-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.10.2020 13:58	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3144740 — Matrix: Soil — Date Prep: 12.10.2020
Parent Sample Id: 680480-001 — MS Sample Id: 680480-001 S — MSD Sample Id: 680480-001 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)	<50.2	1000	1120	112	1040	105	70-135	7	35	mg/kg	12.10.2020 15:19	
Diesel Range Organics (DRO)	<50.2	1000	1090	109	1030	104	70-135	6	35	mg/kg	12.10.2020 15:19	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	114		105		70-135	%	12.10.2020 15:19
o-Terphenyl	105		118		70-135	%	12.10.2020 15:19

Analytical Method: BTEX by EPA 8021B — Prep Method: SW5035A
Seq Number: 3144556 — Matrix: Solid — Date Prep: 12.10.2020
MB Sample Id: 7716867-1-BLK — LCS Sample Id: 7716867-1-BKS — LCSD Sample Id: 7716867-1-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	0.111	111	0.105	105	70-130	6	35	mg/kg	12.10.2020 12:02	
Toluene	<0.00200	0.100	0.106	106	0.106	106	70-130	0	35	mg/kg	12.10.2020 12:02	
Ethylbenzene	<0.00200	0.100	0.0982	98	0.0982	98	71-129	0	35	mg/kg	12.10.2020 12:02	
m,p-Xylenes	<0.00400	0.200	0.200	100	0.200	100	70-135	0	35	mg/kg	12.10.2020 12:02	
o-Xylene	<0.00200	0.100	0.0996	100	0.100	100	71-133	0	35	mg/kg	12.10.2020 12:02	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		95		93		70-130	%	12.10.2020 12:02
4-Bromofluorobenzene	89		88		90		70-130	%	12.10.2020 12:02

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

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

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

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QC Summary 680480

LT Environmental, Inc.

Muy Wayno Frac Pond

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A

Seq Number: 3144556 Matrix: Soil Date Prep: 12.10.2020

Parent Sample Id: 680480-001 MS Sample Id: 680480-001 S MSD Sample Id: 680480-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0895	90	0.0992	99	70-130	10	35	mg/kg	12.10.2020 22:27	
Toluene	<0.00200	0.100	0.0870	87	0.0962	96	70-130	10	35	mg/kg	12.10.2020 22:27	
Ethylbenzene	<0.00200	0.100	0.0806	81	0.0877	88	71-129	8	35	mg/kg	12.10.2020 22:27	
m,p-Xylenes	<0.00401	0.200	0.164	82	0.179	89	70-135	9	35	mg/kg	12.10.2020 22:27	
o-Xylene	<0.00200	0.100	0.0821	82	0.0888	89	71-133	8	35	mg/kg	12.10.2020 22:27	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	94		93		70-130	%	12.10.2020 22:27
4-Bromofluorobenzene	85		82		70-130	%	12.10.2020 22:27

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

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

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

Chain of Custody

Work Order No: 680480

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
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)
www.xenco.com

Page 1 of 2

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 East Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	Spencer.Lo@wsp.com,Kalei.Jennings@wsp.com,Dan.Moir@wsp.com

Work Order Comments

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

Project Name:	Muy Wayno Frac Pond	Turn Around	
Project Number:	TE012920149	Routine	☑
P.O. Number:		Rush:	
Sampler's Name:	Spencer Lo	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	3.2/3.0	Thermometer ID	
Received Intact:	(Yes) No	T-WM-007	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	18

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
FS01	S	12/09/2020	950	2'	1	X	X	X
FS02	S	12/09/2020	1000	2'	1	X	X	X
FS03	S	12/09/2020	1010	2'	1	X	X	X
FS04	S	12/09/2020	1020	2'	1	X	X	X
FS05	S	12/09/2020	1030	2'	1	X	X	X
FS06	S	12/09/2020	1040	2'	1	X	X	X
FS07	S	12/09/2020	1050	2'	1	X	X	X
FS08	S	12/09/2020	1100	2'	1	X	X	X
FS09	S	12/09/2020	1200	2'	1	X	X	X
FS10	S	12/09/2020	1210	2'	1	X	X	X

ANALYSIS REQUEST

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr 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
1		12.9.20 1632	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Chain of Custody

Work Order No: 680480

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
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)
www.xenco.com

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 East Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	Spencer.Lo@wsp.com,Kalei.Jennings@wsp.com,Dan.Moir@wsp.com

Work Order Comments

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

Project Name:	Muy Wayno Frac Pond	Turn Around	
Project Number:	TE012920149	Routine	☑
P.O. Number:		Rush:	
Sampler's Name:	Spencer Lo	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Temperature (°C):		Thermometer ID		
Received Intact:	Yes No	See Page 1		
Cooler Custody Seals:	Yes No N/A	Correction Factor:		
Sample Custody Seals:	Yes No N/A	Total Containers:		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
FS11	S	12/09/2020	1220	2'	1	X	X	X
FS12	S	12/09/2020	1230	2'	1	X	X	X
FS13	S	12/09/2020	1240	2'	1	X	X	X
FS14	S	12/09/2020	1250	3'	1	X	X	X
FS15	S	12/09/2020	1300	3'	1	X	X	X
FS16	S	12/09/2020	1310	3'	1	X	X	X
FS17	S	12/09/2020	1450	0.5'	1	X	X	X
FS18	S	12/09/2020	1500	0.5'	1	X	X	X

ANALYSIS REQUEST

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr 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
1	Cloe Cuate	12.9.20 1632	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 12.09.2020 04.32.00 PM

Work Order #: 680480

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

Temperature Measuring device used : T_NM_007

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Cloe Clifton Date: 12.09.2020

Checklist reviewed by: Jessica Kramer Date: 12.10.2020

Jessica Kramer

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Certificate of Analysis Summary 680483

LT Environmental, Inc., Arvada, CO

Project Name: Muy Wayno Frac Pond

Project Id: TE012920149
Contact: Dan Moir
Project Location:

Date Received in Lab: Wed 12.09.2020 16:32
Report Date: 12.15.2020 11:40
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	680483-001		680483-002		680483-003		680483-004		680483-005		680483-006	
	Field Id:	PH 01		PH 01A		PH 02		PH 02A		PH 03		PH 03A	
	Depth:	1- ft		2- ft		1- ft		2- ft		1- ft		2- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	12.08.2020 09:50		12.08.2020 10:00		12.08.2020 10:10		12.08.2020 10:20		12.08.2020 10:30		12.08.2020 10:40	
BTEX by EPA 8021B	***Extracted:***	12.10.2020 09:57		12.10.2020 09:57		12.10.2020 10:00		12.10.2020 10:00		12.10.2020 10:00		12.10.2020 10:00	
	Analyzed:	12.10.2020 21:43		12.10.2020 22:05		12.10.2020 13:45		12.10.2020 14:07		12.10.2020 14:30		12.10.2020 14:52	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00198	0.00198	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00198	0.00198
Toluene		<0.00198	0.00198	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00198	0.00198
Ethylbenzene		<0.00198	0.00198	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00198	0.00198
m,p-Xylenes		<0.00397	0.00397	<0.00397	0.00397	<0.00398	0.00398	<0.00401	0.00401	<0.00403	0.00403	<0.00397	0.00397
o-Xylene		<0.00198	0.00198	<0.00198	0.00198	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202	<0.00198	0.00198
Total Xylenes		<0.001980	0.001980	<0.001980	0.001980	<0.001990	0.001990	<0.002000	0.002000	<0.002020	0.002020	<0.001980	0.001980
Total BTEX		<0.001980	0.001980	<0.001980	0.001980	<0.001990	0.001990	<0.002000	0.002000	<0.002020	0.002020	<0.001980	0.001980
Chloride by EPA 300	***Extracted:***	12.10.2020 10:43		12.10.2020 10:43		12.10.2020 10:43		12.10.2020 10:43		12.10.2020 10:43		12.10.2020 10:43	
	Analyzed:	12.10.2020 17:30		12.10.2020 17:35		12.10.2020 17:52		12.10.2020 17:58		12.10.2020 18:03		12.10.2020 18:09	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		186	9.92	125	50.1	199	9.98	199	49.7	697	9.94	244	9.90
TPH by SW8015 Mod	***Extracted:***	12.10.2020 12:00		12.10.2020 12:00		12.10.2020 12:00		12.10.2020 12:00		12.10.2020 12:00		12.10.2020 12:00	
	Analyzed:	12.11.2020 12:28		12.11.2020 12:48		12.10.2020 14:58		12.10.2020 15:59		12.10.2020 16:19		12.10.2020 16:40	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<49.9	49.9	<50.2	50.2	<49.9	49.9	<50.2	50.2	<50.1	50.1	<50.2	50.2
Diesel Range Organics (DRO)		<49.9	49.9	<50.2	50.2	<49.9	49.9	<50.2	50.2	<50.1	50.1	<50.2	50.2
Motor Oil Range Hydrocarbons (MRO)		<49.9	49.9	<50.2	50.2	<49.9	49.9	<50.2	50.2	<50.1	50.1	<50.2	50.2
Total GRO-DRO		<49.90	49.90	<50.20	50.20	<49.90	49.90	<50.20	50.20	<50.10	50.10	<50.20	50.20
Total TPH		<49.90	49.90	<50.20	50.20	<49.90	49.90	<50.20	50.20	<50.10	50.10	<50.20	50.20

BRL - Below Reporting Limit

Jessica Kramer

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

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Certificate of Analysis Summary 680483

LT Environmental, Inc., Arvada, CO

Project Name: Muy Wayno Frac Pond

Project Id: TE012920149
Contact: Dan Moir
Project Location:

Date Received in Lab: Wed 12.09.2020 16:32
Report Date: 12.15.2020 11:40
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	680483-007		680483-008		680483-009		680483-010					
	Field Id:	PH 03B		PH 04		PH 04A		PH 04B					
	Depth:	3- ft		1- ft		2- ft		3- ft					
	Matrix:	SOIL		SOIL		SOIL		SOIL					
	Sampled:	12.08.2020 10:50		12.08.2020 11:00		12.08.2020 11:10		12.08.2020 11:20					
BTEX by EPA 8021B	***Extracted:***	12.10.2020 10:00		12.10.2020 10:00		12.10.2020 10:00		12.10.2020 10:00					
	Analyzed:	12.10.2020 15:15		12.10.2020 15:37		12.10.2020 16:00		12.10.2020 16:22					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200				
Toluene		<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200				
Ethylbenzene		<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200				
m,p-Xylenes		<0.00399	0.00399	<0.00398	0.00398	<0.00397	0.00397	<0.00399	0.00399				
o-Xylene		<0.00200	0.00200	<0.00199	0.00199	<0.00198	0.00198	<0.00200	0.00200				
Total Xylenes		<0.002000	0.002000	<0.001990	0.001990	<0.001980	0.001980	<0.002000	0.002000				
Total BTEX		<0.002000	0.002000	<0.001990	0.001990	<0.001980	0.001980	<0.002000	0.002000				
Chloride by EPA 300	***Extracted:***	12.10.2020 10:43		12.10.2020 10:43		12.10.2020 10:43		12.10.2020 16:50					
	Analyzed:	12.10.2020 18:15		12.10.2020 18:20		12.10.2020 18:26		12.10.2020 21:57					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		39.9	9.98	1310	49.8	180	9.98	37.2	9.92				
TPH by SW8015 Mod	***Extracted:***	12.10.2020 12:00		12.10.2020 12:00		12.10.2020 12:00		12.10.2020 12:00					
	Analyzed:	12.10.2020 17:00		12.10.2020 17:20		12.10.2020 17:41		12.10.2020 18:01					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<49.8	49.8	<50.2	50.2	<50.2	50.2	<50.1	50.1				
Diesel Range Organics (DRO)		<49.8	49.8	<50.2	50.2	<50.2	50.2	<50.1	50.1				
Motor Oil Range Hydrocarbons (MRO)		<49.8	49.8	<50.2	50.2	<50.2	50.2	<50.1	50.1				
Total GRO-DRO		<49.80	49.80	<50.20	50.20	<50.20	50.20	<50.10	50.10				
Total TPH		<49.80	49.80	<50.20	50.20	<50.20	50.20	<50.10	50.10				

BRL - Below Reporting Limit

Jessica Kramer

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

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Analytical Report 680483

for

LT Environmental, Inc.

Project Manager: Dan Moir

Muy Wayno Frac Pond

TE012920149

12.15.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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12.15.2020

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

Reference: Eurofins Xenco, LLC Report No(s): **680483**
Muy Wayno Frac Pond
Project Address:

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 680483. 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 Eurofins Xenco, LLC. 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. 680483 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 Eurofins Xenco, LLC 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 Manager

A Small Business and Minority Company

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

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Sample Cross Reference 680483

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
PH 01	S	12.08.2020 09:50	1 ft	680483-001
PH 01A	S	12.08.2020 10:00	2 ft	680483-002
PH 02	S	12.08.2020 10:10	1 ft	680483-003
PH 02A	S	12.08.2020 10:20	2 ft	680483-004
PH 03	S	12.08.2020 10:30	1 ft	680483-005
PH 03A	S	12.08.2020 10:40	2 ft	680483-006
PH 03B	S	12.08.2020 10:50	3 ft	680483-007
PH 04	S	12.08.2020 11:00	1 ft	680483-008
PH 04A	S	12.08.2020 11:10	2 ft	680483-009
PH 04B	S	12.08.2020 11:20	3 ft	680483-010

CASE NARRATIVE

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Client Name: LT Environmental, Inc.

Project Name: Muy Wayno Frac Pond

Project ID: *TE012920149*
Work Order Number(s): *680483*

Report Date: *12.15.2020*
Date Received: *12.09.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 680483

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**PH 01**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680483-001	Date Collected:	12.08.2020 09:50	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:43	% Moisture:	
Seq Number:	3144562			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**186**	9.92	mg/kg	12.10.2020 17:30		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144740			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.11.2020 12:28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.11.2020 12:28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.11.2020 12:28	U	1
Total GRO-DRO	PHC628	<49.90	49.90	mg/kg	12.11.2020 12:28	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.11.2020 12:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	12.11.2020 12:28	
o-Terphenyl	84-15-1	104	%	70-135	12.11.2020 12:28	

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Certificate of Analytical Results 680483

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**PH 01**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680483-001	Date Collected:	12.08.2020 09:50	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 09:57	% Moisture:	
Seq Number:	3144556			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.10.2020 21:43	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.10.2020 21:43	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.10.2020 21:43	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.10.2020 21:43	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.10.2020 21:43	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.10.2020 21:43	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.10.2020 21:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	12.10.2020 21:43	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.10.2020 21:43	

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Certificate of Analytical Results 680483

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**PH 01A**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680483-002	Date Collected:	12.08.2020 10:00	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:43	% Moisture:	
Seq Number:	3144562			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**125**	50.1	mg/kg	12.10.2020 17:35		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144740			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.11.2020 12:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.11.2020 12:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.11.2020 12:48	U	1
Total GRO-DRO	PHC628	<50.20	50.20	mg/kg	12.11.2020 12:48	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.11.2020 12:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	12.11.2020 12:48	
o-Terphenyl	84-15-1	114	%	70-135	12.11.2020 12:48	

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Certificate of Analytical Results 680483

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**PH 01A**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680483-002	Date Collected:	12.08.2020 10:00	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 09:57	% Moisture:	
Seq Number:	3144556			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.10.2020 22:05	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.10.2020 22:05	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.10.2020 22:05	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.10.2020 22:05	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.10.2020 22:05	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.10.2020 22:05	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.10.2020 22:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.10.2020 22:05	
4-Bromofluorobenzene	460-00-4	101	%	70-130	12.10.2020 22:05	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**PH 02**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680483-003	Date Collected:	12.08.2020 10:10	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:43	% Moisture:	
Seq Number:	3144562			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**199**	9.98	mg/kg	12.10.2020 17:52		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144741			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.10.2020 14:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.10.2020 14:58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.10.2020 14:58	U	1
Total GRO-DRO	PHC628	<49.90	49.90	mg/kg	12.10.2020 14:58	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.10.2020 14:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	12.10.2020 14:58	
o-Terphenyl	84-15-1	111	%	70-135	12.10.2020 14:58	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**PH 02**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680483-003	Date Collected:	12.08.2020 10:10	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:00	% Moisture:	
Seq Number:	3144555			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.10.2020 13:45	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.10.2020 13:45	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.10.2020 13:45	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.10.2020 13:45	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.10.2020 13:45	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.10.2020 13:45	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.10.2020 13:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	120	%	70-130	12.10.2020 13:45	
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.10.2020 13:45	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**PH 02A**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680483-004	Date Collected:	12.08.2020 10:20	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:43	% Moisture:	
Seq Number:	3144562			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**199**	49.7	mg/kg	12.10.2020 17:58		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144741			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.10.2020 15:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.10.2020 15:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.10.2020 15:59	U	1
Total GRO-DRO	PHC628	<50.20	50.20	mg/kg	12.10.2020 15:59	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.10.2020 15:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	12.10.2020 15:59	
o-Terphenyl	84-15-1	118	%	70-135	12.10.2020 15:59	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**PH 02A**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680483-004	Date Collected:	12.08.2020 10:20	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:00	% Moisture:	
Seq Number:	3144555			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.10.2020 14:07	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.10.2020 14:07	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.10.2020 14:07	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.10.2020 14:07	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.10.2020 14:07	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.10.2020 14:07	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.10.2020 14:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.10.2020 14:07	
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.10.2020 14:07	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**PH 03**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680483-005	Date Collected:	12.08.2020 10:30	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:43	% Moisture:	
Seq Number:	3144562			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**697**	9.94	mg/kg	12.10.2020 18:03		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144741			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.10.2020 16:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.10.2020 16:19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.10.2020 16:19	U	1
Total GRO-DRO	PHC628	<50.10	50.10	mg/kg	12.10.2020 16:19	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.10.2020 16:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.10.2020 16:19	
o-Terphenyl	84-15-1	108	%	70-135	12.10.2020 16:19	

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Certificate of Analytical Results 680483

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**PH 03**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680483-005	Date Collected:	12.08.2020 10:30	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:00	% Moisture:	
Seq Number:	3144555			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.10.2020 14:30	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.10.2020 14:30	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.10.2020 14:30	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.10.2020 14:30	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.10.2020 14:30	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.10.2020 14:30	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.10.2020 14:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	125	%	70-130	12.10.2020 14:30	
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.10.2020 14:30	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**PH 03A**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680483-006	Date Collected:	12.08.2020 10:40	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:43	% Moisture:	
Seq Number:	3144562			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**244**	9.90	mg/kg	12.10.2020 18:09		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144741			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.10.2020 16:40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.10.2020 16:40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.10.2020 16:40	U	1
Total GRO-DRO	PHC628	<50.20	50.20	mg/kg	12.10.2020 16:40	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.10.2020 16:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	12.10.2020 16:40	
o-Terphenyl	84-15-1	112	%	70-135	12.10.2020 16:40	

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Certificate of Analytical Results 680483

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**PH 03A**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680483-006	Date Collected:	12.08.2020 10:40	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:00	% Moisture:	
Seq Number:	3144555			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.10.2020 14:52	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.10.2020 14:52	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.10.2020 14:52	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.10.2020 14:52	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.10.2020 14:52	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.10.2020 14:52	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.10.2020 14:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	110	%	70-130	12.10.2020 14:52	
4-Bromofluorobenzene	460-00-4	125	%	70-130	12.10.2020 14:52	

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Certificate of Analytical Results 680483

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**PH 03B**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680483-007	Date Collected:	12.08.2020 10:50	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:43	% Moisture:	
Seq Number:	3144562			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**39.9**	9.98	mg/kg	12.10.2020 18:15		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144741			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.10.2020 17:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.10.2020 17:00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.10.2020 17:00	U	1
Total GRO-DRO	PHC628	<49.80	49.80	mg/kg	12.10.2020 17:00	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	12.10.2020 17:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	12.10.2020 17:00	
o-Terphenyl	84-15-1	106	%	70-135	12.10.2020 17:00	

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Certificate of Analytical Results 680483

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**PH 03B**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680483-007	Date Collected:	12.08.2020 10:50	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:00	% Moisture:	
Seq Number:	3144555			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.10.2020 15:15	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.10.2020 15:15	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.10.2020 15:15	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.10.2020 15:15	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.10.2020 15:15	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.10.2020 15:15	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.10.2020 15:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.10.2020 15:15	
4-Bromofluorobenzene	460-00-4	119	%	70-130	12.10.2020 15:15	

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Certificate of Analytical Results 680483

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**PH 04**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680483-008	Date Collected:	12.08.2020 11:00	Sample Depth:	1 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:43	% Moisture:	
Seq Number:	3144562			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1310**	49.8	mg/kg	12.10.2020 18:20		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144741			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.10.2020 17:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.10.2020 17:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.10.2020 17:20	U	1
Total GRO-DRO	PHC628	<50.20	50.20	mg/kg	12.10.2020 17:20	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.10.2020 17:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	12.10.2020 17:20	
o-Terphenyl	84-15-1	98	%	70-135	12.10.2020 17:20	

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Certificate of Analytical Results 680483

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**PH 04**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680483-008	Date Collected:	12.08.2020 11:00	Sample Depth:	1 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:00	% Moisture:	
Seq Number:	3144555			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.10.2020 15:37	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.10.2020 15:37	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.10.2020 15:37	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.10.2020 15:37	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.10.2020 15:37	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.10.2020 15:37	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.10.2020 15:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.10.2020 15:37	
4-Bromofluorobenzene	460-00-4	118	%	70-130	12.10.2020 15:37	

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Certificate of Analytical Results 680483

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**PH 04A**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680483-009	Date Collected:	12.08.2020 11:10	Sample Depth:	2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:43	% Moisture:	
Seq Number:	3144562			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**180**	9.98	mg/kg	12.10.2020 18:26		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144741			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.10.2020 17:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.10.2020 17:41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.10.2020 17:41	U	1
Total GRO-DRO	PHC628	<50.20	50.20	mg/kg	12.10.2020 17:41	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.10.2020 17:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	12.10.2020 17:41	
o-Terphenyl	84-15-1	108	%	70-135	12.10.2020 17:41	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**PH 04A**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680483-009	Date Collected:	12.08.2020 11:10	Sample Depth:	2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:00	% Moisture:	
Seq Number:	3144555			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.10.2020 16:00	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.10.2020 16:00	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.10.2020 16:00	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.10.2020 16:00	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.10.2020 16:00	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.10.2020 16:00	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.10.2020 16:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.10.2020 16:00	
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.10.2020 16:00	

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Certificate of Analytical Results 680483

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**PH 04B**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680483-010	Date Collected:	12.08.2020 11:20	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 16:50	% Moisture:	
Seq Number:	3144564			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**37.2**	9.92	mg/kg	12.10.2020 21:57		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144741			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.10.2020 18:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.10.2020 18:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.10.2020 18:01	U	1
Total GRO-DRO	PHC628	<50.10	50.10	mg/kg	12.10.2020 18:01	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.10.2020 18:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	12.10.2020 18:01	
o-Terphenyl	84-15-1	102	%	70-135	12.10.2020 18:01	

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LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**PH 04B**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680483-010	Date Collected:	12.08.2020 11:20	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:00	% Moisture:	
Seq Number:	3144555			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.10.2020 16:22	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.10.2020 16:22	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.10.2020 16:22	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.10.2020 16:22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.10.2020 16:22	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.10.2020 16:22	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.10.2020 16:22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	122	%	70-130	12.10.2020 16:22	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.10.2020 16:22	

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Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample 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

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QC Summary 680483

LT Environmental, Inc.

Muy Wayno Frac Pond

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3144562 — Matrix: Solid — Date Prep: 12.10.2020
MB Sample Id: 7716882-1-BLK — LCS Sample Id: 7716882-1-BKS — LCSD Sample Id: 7716882-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	237	95	236	94	90-110	0	20	mg/kg	12.10.2020 15:44	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3144564 — Matrix: Solid — Date Prep: 12.10.2020
MB Sample Id: 7716884-1-BLK — LCS Sample Id: 7716884-1-BKS — LCSD Sample Id: 7716884-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	246	98	248	99	90-110	1	20	mg/kg	12.10.2020 21:46	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3144562 — Matrix: Soil — Date Prep: 12.10.2020
Parent Sample Id: 680480-008 — MS Sample Id: 680480-008 S — MSD Sample Id: 680480-008 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	193	199	382	95	384	96	90-110	1	20	mg/kg	12.10.2020 16:00	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3144562 — Matrix: Soil — Date Prep: 12.10.2020
Parent Sample Id: 680480-018 — MS Sample Id: 680480-018 S — MSD Sample Id: 680480-018 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	6820	200	7010	95	7020	100	90-110	0	20	mg/kg	12.10.2020 17:19	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3144564 — Matrix: Soil — Date Prep: 12.10.2020
Parent Sample Id: 680483-010 — MS Sample Id: 680483-010 S — MSD Sample Id: 680483-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	37.2	199	233	98	234	98	90-110	0	20	mg/kg	12.10.2020 22:03	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3144564 — Matrix: Soil — Date Prep: 12.10.2020
Parent Sample Id: 680572-001 — MS Sample Id: 680572-001 S — MSD Sample Id: 680572-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	14500	199	14700	101	14700	100	90-110	0	20	mg/kg	12.10.2020 23:21	

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

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

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

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QC Summary 680483

LT Environmental, Inc.

Muy Wayno Frac Pond

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3144740 Matrix: Solid Date Prep: 12.10.2020
MB Sample Id: 7716872-1-BLK LCS Sample Id: 7716872-1-BKS LCSD Sample Id: 7716872-1-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)	<50.0	1000	1040	104	1110	111	70-135	7	35	mg/kg	12.10.2020 14:18	
Diesel Range Organics (DRO)	<50.0	1000	1080	108	1090	109	70-135	1	35	mg/kg	12.10.2020 14:18	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	98		101		108		70-135	%	12.10.2020 14:18
o-Terphenyl	93		105		108		70-135	%	12.10.2020 14:18

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3144741 Matrix: Solid Date Prep: 12.10.2020
MB Sample Id: 7716874-1-BLK LCS Sample Id: 7716874-1-BKS LCSD Sample Id: 7716874-1-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)	<50.0	1000	1060	106	924	92	70-135	14	35	mg/kg	12.10.2020 14:18	
Diesel Range Organics (DRO)	<50.0	1000	1020	102	1070	107	70-135	5	35	mg/kg	12.10.2020 14:18	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	111		107		109		70-135	%	12.10.2020 14:18
o-Terphenyl	105		102		120		70-135	%	12.10.2020 14:18

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3144740 Matrix: Solid Date Prep: 12.10.2020
MB Sample Id: 7716872-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.10.2020 13:58	

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3144741 Matrix: Solid Date Prep: 12.10.2020
MB Sample Id: 7716874-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.10.2020 13:58	

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

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

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

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QC Summary 680483

LT Environmental, Inc.

Muy Wayno Frac Pond

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3144740 Matrix: Soil Date Prep: 12.10.2020
Parent Sample Id: 680480-001 MS Sample Id: 680480-001 S MSD Sample Id: 680480-001 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)	<50.2	1000	1120	112	1040	105	70-135	7	35	mg/kg	12.10.2020 15:19	
Diesel Range Organics (DRO)	<50.2	1000	1090	109	1030	104	70-135	6	35	mg/kg	12.10.2020 15:19	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	114		105		70-135	%	12.10.2020 15:19
o-Terphenyl	105		118		70-135	%	12.10.2020 15:19

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3144741 Matrix: Soil Date Prep: 12.10.2020
Parent Sample Id: 680483-003 MS Sample Id: 680483-003 S MSD Sample Id: 680483-003 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)	<49.8	995	1040	105	1120	111	70-135	7	35	mg/kg	12.10.2020 15:19	
Diesel Range Organics (DRO)	<49.8	995	1140	115	1000	99	70-135	13	35	mg/kg	12.10.2020 15:19	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		123		70-135	%	12.10.2020 15:19
o-Terphenyl	116		101		70-135	%	12.10.2020 15:19

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3144556 Matrix: Solid Date Prep: 12.10.2020
MB Sample Id: 7716867-1-BLK LCS Sample Id: 7716867-1-BKS LCSD Sample Id: 7716867-1-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	0.111	111	0.105	105	70-130	6	35	mg/kg	12.10.2020 12:02	
Toluene	<0.00200	0.100	0.106	106	0.106	106	70-130	0	35	mg/kg	12.10.2020 12:02	
Ethylbenzene	<0.00200	0.100	0.0982	98	0.0982	98	71-129	0	35	mg/kg	12.10.2020 12:02	
m,p-Xylenes	<0.00400	0.200	0.200	100	0.200	100	70-135	0	35	mg/kg	12.10.2020 12:02	
o-Xylene	<0.00200	0.100	0.0996	100	0.100	100	71-133	0	35	mg/kg	12.10.2020 12:02	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		95		93		70-130	%	12.10.2020 12:02
4-Bromofluorobenzene	89		88		90		70-130	%	12.10.2020 12:02

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

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

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

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QC Summary 680483

LT Environmental, Inc.

Muy Wayno Frac Pond

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A

Seq Number: 3144555 Matrix: Solid Date Prep: 12.10.2020

MB Sample Id: 7716866-1-BLK LCS Sample Id: 7716866-1-BKS LCSD Sample Id: 7716866-1-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	0.0955	96	0.0992	99	70-130	4	35	mg/kg	12.10.2020 11:40	
Toluene	<0.00200	0.100	0.0888	89	0.0924	92	70-130	4	35	mg/kg	12.10.2020 11:40	
Ethylbenzene	<0.00200	0.100	0.0934	93	0.0961	96	71-129	3	35	mg/kg	12.10.2020 11:40	
m,p-Xylenes	<0.00400	0.200	0.190	95	0.200	100	70-135	5	35	mg/kg	12.10.2020 11:40	
o-Xylene	<0.00200	0.100	0.0952	95	0.0997	100	71-133	5	35	mg/kg	12.10.2020 11:40	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		97		98		70-130	%	12.10.2020 11:40
4-Bromofluorobenzene	116		107		107		70-130	%	12.10.2020 11:40

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A

Seq Number: 3144556 Matrix: Soil Date Prep: 12.10.2020

Parent Sample Id: 680480-001 MS Sample Id: 680480-001 S MSD Sample Id: 680480-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0895	90	0.0992	99	70-130	10	35	mg/kg	12.10.2020 22:27	
Toluene	<0.00200	0.100	0.0870	87	0.0962	96	70-130	10	35	mg/kg	12.10.2020 22:27	
Ethylbenzene	<0.00200	0.100	0.0806	81	0.0877	88	71-129	8	35	mg/kg	12.10.2020 22:27	
m,p-Xylenes	<0.00401	0.200	0.164	82	0.179	89	70-135	9	35	mg/kg	12.10.2020 22:27	
o-Xylene	<0.00200	0.100	0.0821	82	0.0888	89	71-133	8	35	mg/kg	12.10.2020 22:27	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	94		93		70-130	%	12.10.2020 22:27
4-Bromofluorobenzene	85		82		70-130	%	12.10.2020 22:27

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A

Seq Number: 3144555 Matrix: Soil Date Prep: 12.10.2020

Parent Sample Id: 680483-003 MS Sample Id: 680483-003 S MSD Sample Id: 680483-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.106	106	0.112	112	70-130	6	35	mg/kg	12.10.2020 12:25	
Toluene	<0.00199	0.0996	0.104	104	0.107	107	70-130	3	35	mg/kg	12.10.2020 12:25	
Ethylbenzene	<0.00199	0.0996	0.108	108	0.112	112	71-129	4	35	mg/kg	12.10.2020 12:25	
m,p-Xylenes	<0.00398	0.199	0.224	113	0.231	116	70-135	3	35	mg/kg	12.10.2020 12:25	
o-Xylene	<0.00199	0.0996	0.109	109	0.114	114	71-133	4	35	mg/kg	12.10.2020 12:25	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		103		70-130	%	12.10.2020 12:25
4-Bromofluorobenzene	109		113		70-130	%	12.10.2020 12:25

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

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

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

Chain of Custody

Work Order No: 680483

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
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)
www.xenco.com

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 East Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849 Email:		Spencer.Lo@wsp.com,Kalei.Jennings@wsp.com,Dan.Moir@wsp.com

Work Order Comments

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

Project Name:	Muy Wayno Frac Pond	Turn Around	
Project Number:	TE01292014 9	Routine	☒
P.O. Number:		Rush:	
Sampler's Name:	Spencer Lo	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	3.2/3.0	Thermometer ID	
Received Intact:	(Yes) No	T-WM-009	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	10

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
PH01	S	12/8/2020	950	1'	1	X	X	X
PH01A	S	12/8/2020	1000	2'	1	X	X	X
PH02	S	12/8/2020	1010	1'	1	X	X	X
PH02A	S	12/8/2020	1020	2'	1	X	X	X
PH03	S	12/8/2020	1030	1'	1	X	X	X
PH03A	S	12/8/2020	1040	2'	1	X	X	X
PH03B	S	12/8/2020	1050	3'	1	X	X	X
PH04	S	12/8/2020	1100	1'	1	X	X	X
PH04A	S	12/8/2020	1110	2'	1	X	X	X
PH04B	S	12/8/2020	1120	3'	1	X	X	X

ANALYSIS REQUEST

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr 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
1			12.9.20 1632	2		
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 12.09.2020 04.32.00 PM

Work Order #: 680483

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

Temperature Measuring device used : T_NM_007

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Cloe Clifton Date: 12.09.2020

Checklist reviewed by: Jessica Kramer Date: 12.10.2020

Jessica Kramer

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Certificate of Analysis Summary 680485

LT Environmental, Inc., Arvada, CO

Project Name: Muy Wayno Frac Pond

Project Id: TE012920149
Contact: Dan Moir
Project Location:

Date Received in Lab: Wed 12.09.2020 16:32
Report Date: 12.15.2020 11:41
Project Manager: Jessica Kramer

Analysis Requested													
	Lab Id:	680485-001		680485-002		680485-003		680485-004		680485-005		680485-006	
	Field Id:	SW01		SW02		SW03		SW04		SW05		SW06	
	Depth:	0-3 ft		0-2 ft		0-2 ft		0-2 ft		0-2 ft		0-2 ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	12.09.2020 13:20		12.09.2020 13:30		12.09.2020 13:40		12.09.2020 13:50		12.09.2020 14:00		12.09.2020 14:10	
BTEX by EPA 8021B	***Extracted:***	12.10.2020 10:00		12.10.2020 10:00		12.10.2020 10:00		12.10.2020 10:00		12.10.2020 10:00		12.10.2020 10:00	
	Analyzed:	12.10.2020 16:44		12.10.2020 17:07		12.10.2020 18:27		12.10.2020 18:49		12.10.2020 19:11		12.10.2020 19:34	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Toluene		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Ethylbenzene		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
m,p-Xylenes		<0.00402	0.00402	<0.00398	0.00398	<0.00401	0.00401	<0.00402	0.00402	<0.00398	0.00398	<0.00400	0.00400
o-Xylene		<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200	<0.00201	0.00201	<0.00199	0.00199	<0.00200	0.00200
Total Xylenes		<0.002010	0.002010	<0.001990	0.001990	<0.002000	0.002000	<0.002010	0.002010	<0.001990	0.001990	<0.002000	0.002000
Total BTEX		<0.002010	0.002010	<0.001990	0.001990	<0.002000	0.002000	<0.002010	0.002010	<0.001990	0.001990	<0.002000	0.002000
Chloride by EPA 300	***Extracted:***	12.10.2020 16:50		12.10.2020 16:50		12.10.2020 16:50		12.10.2020 16:50		12.10.2020 16:50		12.10.2020 16:50	
	Analyzed:	12.10.2020 22:14		12.10.2020 22:19		12.10.2020 22:25		12.10.2020 22:30		12.10.2020 22:47		12.10.2020 22:53	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		108	9.90	122	10.0	113	9.94	28.8	10.0	40.1	9.92	51.2	9.96
TPH by SW8015 Mod	***Extracted:***	12.10.2020 12:00		12.10.2020 12:00		12.10.2020 12:00		12.10.2020 12:00		12.10.2020 12:00		12.10.2020 12:00	
	Analyzed:	12.10.2020 18:21		12.10.2020 18:42		12.10.2020 19:23		12.11.2020 10:07		12.11.2020 10:26		12.11.2020 10:46	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Gasoline Range Hydrocarbons (GRO)		<50.1	50.1	<50.2	50.2	<50.2	50.2	183	49.8	<49.9	49.9	<50.2	50.2
Diesel Range Organics (DRO)		<50.1	50.1	<50.2	50.2	<50.2	50.2	86.2	49.8	<49.9	49.9	<50.2	50.2
Motor Oil Range Hydrocarbons (MRO)		<50.1	50.1	<50.2	50.2	<50.2	50.2	<49.8	49.8	68.6	49.9	<50.2	50.2
Total GRO-DRO		<50.10	50.10	<50.20	50.20	<50.20	50.20	269.2	49.80	<49.90	49.90	<50.20	50.20
Total TPH		<50.10	50.10	<50.20	50.20	<50.20	50.20	269.2	49.80	68.60	49.90	<50.20	50.20

BRL - Below Reporting Limit

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

Jessica Kramer

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Certificate of Analysis Summary 680485

LT Environmental, Inc., Arvada, CO

Project Name: Muy Wayno Frac Pond

Project Id: TE012920149
Contact: Dan Moir
Project Location:

Date Received in Lab: Wed 12.09.2020 16:32
Report Date: 12.15.2020 11:41
Project Manager: Jessica Kramer

Analysis Requested											
	Lab Id:	680485-007		680485-008		680485-009					
	Field Id:	SW07		SW08		SW09					
	Depth:	0-2 ft		0-2 ft		0-3 ft					
	Matrix:	SOIL		SOIL		SOIL					
	Sampled:	12.09.2020 14:20		12.09.2020 14:30		12.09.2020 14:40					
BTEX by EPA 8021B	***Extracted:***	12.10.2020 10:00		12.10.2020 10:00		12.10.2020 10:00					
	Analyzed:	12.10.2020 19:56		12.10.2020 20:19		12.10.2020 20:41					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Benzene		<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200				
Toluene		<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200				
Ethylbenzene		<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200				
m,p-Xylenes		<0.00402	0.00402	<0.00400	0.00400	<0.00401	0.00401				
o-Xylene		<0.00201	0.00201	<0.00200	0.00200	<0.00200	0.00200				
Total Xylenes		<0.002010	0.002010	<0.002000	0.002000	<0.002000	0.002000				
Total BTEX		<0.002010	0.002010	<0.002000	0.002000	<0.002000	0.002000				
Chloride by EPA 300	***Extracted:***	12.10.2020 16:50		12.10.2020 16:50		12.10.2020 16:50					
	Analyzed:	12.10.2020 22:58		12.10.2020 23:04		12.10.2020 23:10					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Chloride		393	9.98	376	9.96	374	9.96				
TPH by SW8015 Mod	***Extracted:***	12.10.2020 12:00		12.10.2020 12:00		12.10.2020 12:00					
	Analyzed:	12.11.2020 11:07		12.11.2020 11:27		12.11.2020 11:47					
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL				
Gasoline Range Hydrocarbons (GRO)		<50.2	50.2	<50.3	50.3	<49.8	49.8				
Diesel Range Organics (DRO)		<50.2	50.2	<50.3	50.3	<49.8	49.8				
Motor Oil Range Hydrocarbons (MRO)		<50.2	50.2	<50.3	50.3	<49.8	49.8				
Total GRO-DRO		<50.20	50.20	<50.30	50.30	<49.80	49.80				
Total TPH		<50.20	50.20	<50.30	50.30	<49.80	49.80				

BRL - Below Reporting Limit

Jessica Kramer

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

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Analytical Report 680485

for

LT Environmental, Inc.

Project Manager: Dan Moir

Muy Wayno Frac Pond

TE012920149

12.15.2020

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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12.15.2020

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

Reference: Eurofins Xenco, LLC Report No(s): **680485**
Muy Wayno Frac Pond
Project Address:

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 680485. 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 Eurofins Xenco, LLC. 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. 680485 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 Eurofins Xenco, LLC 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 Manager

A Small Business and Minority Company

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

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Sample Cross Reference 680485

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW01	S	12.09.2020 13:20	0 - 3 ft	680485-001
SW02	S	12.09.2020 13:30	0 - 2 ft	680485-002
SW03	S	12.09.2020 13:40	0 - 2 ft	680485-003
SW04	S	12.09.2020 13:50	0 - 2 ft	680485-004
SW05	S	12.09.2020 14:00	0 - 2 ft	680485-005
SW06	S	12.09.2020 14:10	0 - 2 ft	680485-006
SW07	S	12.09.2020 14:20	0 - 2 ft	680485-007
SW08	S	12.09.2020 14:30	0 - 2 ft	680485-008
SW09	S	12.09.2020 14:40	0 - 3 ft	680485-009

CASE NARRATIVE

eurofins | Environment Testing Xenco

Client Name: LT Environmental, Inc.

Project Name: Muy Wayno Frac Pond

Project ID: *TE012920149*
Work Order Number(s): *680485*

Report Date: *12.15.2020*
Date Received: *12.09.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 680485

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**SW01**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680485-001	Date Collected:	12.09.2020 13:20	Sample Depth:	0 - 3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 16:50	% Moisture:	
Seq Number:	3144564			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**108**	9.90	mg/kg	12.10.2020 22:14		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144741			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.10.2020 18:21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.10.2020 18:21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.10.2020 18:21	U	1
Total GRO-DRO	PHC628	<50.10	50.10	mg/kg	12.10.2020 18:21	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.10.2020 18:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	12.10.2020 18:21	
o-Terphenyl	84-15-1	109	%	70-135	12.10.2020 18:21	

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Sample Id:	**SW01**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680485-001	Date Collected:	12.09.2020 13:20	Sample Depth:	0 - 3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:00	% Moisture:	
Seq Number:	3144555			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.10.2020 16:44	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.10.2020 16:44	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.10.2020 16:44	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.10.2020 16:44	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.10.2020 16:44	U	1
Total Xylenes	1330-20-7	<0.002010	0.002010	mg/kg	12.10.2020 16:44	U	1
Total BTEX		<0.002010	0.002010	mg/kg	12.10.2020 16:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	114	%	70-130	12.10.2020 16:44	
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.10.2020 16:44	

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Sample Id:	**SW02**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680485-002	Date Collected:	12.09.2020 13:30	Sample Depth:	0 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 16:50	% Moisture:	
Seq Number:	3144564			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**122**	10.0	mg/kg	12.10.2020 22:19		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144741			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.10.2020 18:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.10.2020 18:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.10.2020 18:42	U	1
Total GRO-DRO	PHC628	<50.20	50.20	mg/kg	12.10.2020 18:42	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.10.2020 18:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	12.10.2020 18:42	
o-Terphenyl	84-15-1	105	%	70-135	12.10.2020 18:42	

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Sample Id:	**SW02**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680485-002	Date Collected:	12.09.2020 13:30	Sample Depth:	0 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:00	% Moisture:	
Seq Number:	3144555			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.10.2020 17:07	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.10.2020 17:07	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.10.2020 17:07	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.10.2020 17:07	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.10.2020 17:07	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.10.2020 17:07	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.10.2020 17:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.10.2020 17:07	
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.10.2020 17:07	

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Sample Id:	**SW03**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680485-003	Date Collected:	12.09.2020 13:40	Sample Depth:	0 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 16:50	% Moisture:	
Seq Number:	3144564			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**113**	9.94	mg/kg	12.10.2020 22:25		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144741			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.10.2020 19:23	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.10.2020 19:23	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.10.2020 19:23	U	1
Total GRO-DRO	PHC628	<50.20	50.20	mg/kg	12.10.2020 19:23	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.10.2020 19:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	12.10.2020 19:23	
o-Terphenyl	84-15-1	105	%	70-135	12.10.2020 19:23	

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Sample Id:	**SW03**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680485-003	Date Collected:	12.09.2020 13:40	Sample Depth:	0 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:00	% Moisture:	
Seq Number:	3144555			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.10.2020 18:27	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.10.2020 18:27	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.10.2020 18:27	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.10.2020 18:27	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.10.2020 18:27	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.10.2020 18:27	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.10.2020 18:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	118	%	70-130	12.10.2020 18:27	
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.10.2020 18:27	

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Sample Id:	**SW04**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680485-004	Date Collected:	12.09.2020 13:50	Sample Depth:	0 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 16:50	% Moisture:	
Seq Number:	3144564			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**28.8**	10.0	mg/kg	12.10.2020 22:30		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144741			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	**183**	49.8	mg/kg	12.11.2020 10:07		1
Diesel Range Organics (DRO)	C10C28DRO	**86.2**	49.8	mg/kg	12.11.2020 10:07		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.11.2020 10:07	U	1
Total GRO-DRO	PHC628	**269.2**	49.80	mg/kg	12.11.2020 10:07		1
Total TPH	PHC635	**269.2**	49.80	mg/kg	12.11.2020 10:07		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	12.11.2020 10:07	
o-Terphenyl	84-15-1	112	%	70-135	12.11.2020 10:07	

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Sample Id:	**SW04**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680485-004	Date Collected:	12.09.2020 13:50	Sample Depth:	0 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:00	% Moisture:	
Seq Number:	3144555			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.10.2020 18:49	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.10.2020 18:49	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.10.2020 18:49	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.10.2020 18:49	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.10.2020 18:49	U	1
Total Xylenes	1330-20-7	<0.002010	0.002010	mg/kg	12.10.2020 18:49	U	1
Total BTEX		<0.002010	0.002010	mg/kg	12.10.2020 18:49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.10.2020 18:49	
4-Bromofluorobenzene	460-00-4	117	%	70-130	12.10.2020 18:49	

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Sample Id:	**SW05**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680485-005	Date Collected:	12.09.2020 14:00	Sample Depth:	0 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 16:50	% Moisture:	
Seq Number:	3144564			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**40.1**	9.92	mg/kg	12.10.2020 22:47		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144741			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.11.2020 10:26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.11.2020 10:26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	**68.6**	49.9	mg/kg	12.11.2020 10:26		1
Total GRO-DRO	PHC628	<49.90	49.90	mg/kg	12.11.2020 10:26	U	1
Total TPH	PHC635	**68.60**	49.90	mg/kg	12.11.2020 10:26		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	12.11.2020 10:26	
o-Terphenyl	84-15-1	106	%	70-135	12.11.2020 10:26	

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Sample Id:	**SW05**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680485-005	Date Collected:	12.09.2020 14:00	Sample Depth:	0 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:00	% Moisture:	
Seq Number:	3144555			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.10.2020 19:11	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.10.2020 19:11	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.10.2020 19:11	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.10.2020 19:11	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.10.2020 19:11	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.10.2020 19:11	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.10.2020 19:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.10.2020 19:11	
4-Bromofluorobenzene	460-00-4	118	%	70-130	12.10.2020 19:11	

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Sample Id:	**SW06**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680485-006	Date Collected:	12.09.2020 14:10	Sample Depth:	0 - 2 ft

Analytical Method: Chloride by EPA 300 Prep Method: E300P

Tech: MAB

Analyst: MAB Date Prep: 12.10.2020 16:50 % Moisture:

Seq Number: 3144564 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**51.2**	9.96	mg/kg	12.10.2020 22:53		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P

Tech: CAC

Analyst: CAC Date Prep: 12.10.2020 12:00 % Moisture:

Seq Number: 3144741 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.11.2020 10:46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.11.2020 10:46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.11.2020 10:46	U	1
Total GRO-DRO	PHC628	<50.20	50.20	mg/kg	12.11.2020 10:46	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.11.2020 10:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	12.11.2020 10:46	
o-Terphenyl	84-15-1	98	%	70-135	12.11.2020 10:46	

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Sample Id:	**SW06**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680485-006	Date Collected:	12.09.2020 14:10	Sample Depth:	0 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:00	% Moisture:	
Seq Number:	3144555			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.10.2020 19:34	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.10.2020 19:34	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.10.2020 19:34	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.10.2020 19:34	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.10.2020 19:34	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.10.2020 19:34	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.10.2020 19:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.10.2020 19:34	
4-Bromofluorobenzene	460-00-4	113	%	70-130	12.10.2020 19:34	

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Sample Id:	**SW07**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680485-007	Date Collected:	12.09.2020 14:20	Sample Depth:	0 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 16:50	% Moisture:	
Seq Number:	3144564			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**393**	9.98	mg/kg	12.10.2020 22:58		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144741			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.11.2020 11:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.11.2020 11:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.11.2020 11:07	U	1
Total GRO-DRO	PHC628	<50.20	50.20	mg/kg	12.11.2020 11:07	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.11.2020 11:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	12.11.2020 11:07	
o-Terphenyl	84-15-1	94	%	70-135	12.11.2020 11:07	

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Sample Id:	**SW07**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680485-007	Date Collected:	12.09.2020 14:20	Sample Depth:	0 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:00	% Moisture:	
Seq Number:	3144555			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.10.2020 19:56	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.10.2020 19:56	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.10.2020 19:56	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.10.2020 19:56	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.10.2020 19:56	U	1
Total Xylenes	1330-20-7	<0.002010	0.002010	mg/kg	12.10.2020 19:56	U	1
Total BTEX		<0.002010	0.002010	mg/kg	12.10.2020 19:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.10.2020 19:56	
4-Bromofluorobenzene	460-00-4	122	%	70-130	12.10.2020 19:56	

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Sample Id:	**SW08**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680485-008	Date Collected:	12.09.2020 14:30	Sample Depth:	0 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 16:50	% Moisture:	
Seq Number:	3144564			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**376**	9.96	mg/kg	12.10.2020 23:04		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144741			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.11.2020 11:27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.11.2020 11:27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.11.2020 11:27	U	1
Total GRO-DRO	PHC628	<50.30	50.30	mg/kg	12.11.2020 11:27	U	1
Total TPH	PHC635	<50.30	50.30	mg/kg	12.11.2020 11:27	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	12.11.2020 11:27	
o-Terphenyl	84-15-1	107	%	70-135	12.11.2020 11:27	

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Certificate of Analytical Results 680485

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**SW08**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680485-008	Date Collected:	12.09.2020 14:30	Sample Depth:	0 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:00	% Moisture:	
Seq Number:	3144555			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.10.2020 20:19	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.10.2020 20:19	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.10.2020 20:19	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.10.2020 20:19	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.10.2020 20:19	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.10.2020 20:19	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.10.2020 20:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.10.2020 20:19	
4-Bromofluorobenzene	460-00-4	124	%	70-130	12.10.2020 20:19	

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Certificate of Analytical Results 680485

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**SW09**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680485-009	Date Collected:	12.09.2020 14:40	Sample Depth:	0 - 3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 16:50	% Moisture:	
Seq Number:	3144564			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**374**	9.96	mg/kg	12.10.2020 23:10		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.10.2020 12:00	% Moisture:	
Seq Number:	3144741			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.11.2020 11:47	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.11.2020 11:47	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.11.2020 11:47	U	1
Total GRO-DRO	PHC628	<49.80	49.80	mg/kg	12.11.2020 11:47	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	12.11.2020 11:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	12.11.2020 11:47	
o-Terphenyl	84-15-1	112	%	70-135	12.11.2020 11:47	

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Certificate of Analytical Results 680485

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**SW09**	Matrix:	Soil	Date Received:	12.09.2020 16:32
Lab Sample Id:	680485-009	Date Collected:	12.09.2020 14:40	Sample Depth:	0 - 3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.10.2020 10:00	% Moisture:	
Seq Number:	3144555			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.10.2020 20:41	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.10.2020 20:41	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.10.2020 20:41	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.10.2020 20:41	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.10.2020 20:41	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.10.2020 20:41	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.10.2020 20:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.10.2020 20:41	
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.10.2020 20:41	

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Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample 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

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QC Summary 680485

LT Environmental, Inc.

Muy Wayno Frac Pond

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3144564 — Matrix: Solid — Date Prep: 12.10.2020
MB Sample Id: 7716884-1-BLK — LCS Sample Id: 7716884-1-BKS — LCSD Sample Id: 7716884-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	246	98	248	99	90-110	1	20	mg/kg	12.10.2020 21:46	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3144564 — Matrix: Soil — Date Prep: 12.10.2020
Parent Sample Id: 680483-010 — MS Sample Id: 680483-010 S — MSD Sample Id: 680483-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	37.2	199	233	98	234	98	90-110	0	20	mg/kg	12.10.2020 22:03	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3144564 — Matrix: Soil — Date Prep: 12.10.2020
Parent Sample Id: 680572-001 — MS Sample Id: 680572-001 S — MSD Sample Id: 680572-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	14500	199	14700	101	14700	100	90-110	0	20	mg/kg	12.10.2020 23:21	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3144741 — Matrix: Solid — Date Prep: 12.10.2020
MB Sample Id: 7716874-1-BLK — LCS Sample Id: 7716874-1-BKS — LCSD Sample Id: 7716874-1-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)	<50.0	1000	1060	106	924	92	70-135	14	35	mg/kg	12.10.2020 14:18	
Diesel Range Organics (DRO)	<50.0	1000	1020	102	1070	107	70-135	5	35	mg/kg	12.10.2020 14:18	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	111		107		109		70-135	%	12.10.2020 14:18
o-Terphenyl	105		102		120		70-135	%	12.10.2020 14:18

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3144741 — Matrix: Solid — Date Prep: 12.10.2020
MB Sample Id: 7716874-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.10.2020 13:58	

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

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

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

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QC Summary 680485

LT Environmental, Inc.

Muy Wayno Frac Pond

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3144741 Matrix: Soil Date Prep: 12.10.2020
Parent Sample Id: 680483-003 MS Sample Id: 680483-003 S MSD Sample Id: 680483-003 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)	<49.8	995	1040	105	1120	111	70-135	7	35	mg/kg	12.10.2020 15:19	
Diesel Range Organics (DRO)	<49.8	995	1140	115	1000	99	70-135	13	35	mg/kg	12.10.2020 15:19	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	115		123		70-135	%	12.10.2020 15:19
o-Terphenyl	116		101		70-135	%	12.10.2020 15:19

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3144555 Matrix: Solid Date Prep: 12.10.2020
MB Sample Id: 7716866-1-BLK LCS Sample Id: 7716866-1-BKS LCSD Sample Id: 7716866-1-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	0.0955	96	0.0992	99	70-130	4	35	mg/kg	12.10.2020 11:40	
Toluene	<0.00200	0.100	0.0888	89	0.0924	92	70-130	4	35	mg/kg	12.10.2020 11:40	
Ethylbenzene	<0.00200	0.100	0.0934	93	0.0961	96	71-129	3	35	mg/kg	12.10.2020 11:40	
m,p-Xylenes	<0.00400	0.200	0.190	95	0.200	100	70-135	5	35	mg/kg	12.10.2020 11:40	
o-Xylene	<0.00200	0.100	0.0952	95	0.0997	100	71-133	5	35	mg/kg	12.10.2020 11:40	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		97		98		70-130	%	12.10.2020 11:40
4-Bromofluorobenzene	116		107		107		70-130	%	12.10.2020 11:40

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3144555 Matrix: Soil Date Prep: 12.10.2020
Parent Sample Id: 680483-003 MS Sample Id: 680483-003 S MSD Sample Id: 680483-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.106	106	0.112	112	70-130	6	35	mg/kg	12.10.2020 12:25	
Toluene	<0.00199	0.0996	0.104	104	0.107	107	70-130	3	35	mg/kg	12.10.2020 12:25	
Ethylbenzene	<0.00199	0.0996	0.108	108	0.112	112	71-129	4	35	mg/kg	12.10.2020 12:25	
m,p-Xylenes	<0.00398	0.199	0.224	113	0.231	116	70-135	3	35	mg/kg	12.10.2020 12:25	
o-Xylene	<0.00199	0.0996	0.109	109	0.114	114	71-133	4	35	mg/kg	12.10.2020 12:25	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		103		70-130	%	12.10.2020 12:25
4-Bromofluorobenzene	109		113		70-130	%	12.10.2020 12:25

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

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
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)
www.xenco.com

Work Order No: 680485

Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 East Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	Spencer.Lo@wsp.com,Kalei.Jennings@wsp.com,Dan.Moir@wsp.com

Work Order Comments

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

Project Name:	Muy Wayno Frac Pond	Turn Around	
Project Number:	TE012920149	Routine	✓
P.O. Number:		Rush:	
Sampler's Name:	Spencer Lo	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	3.2 / 3.0	Thermometer ID	TNM-007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	9

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
SW01	S	12/09/2020	1320	0-3'	1	X	X	X
SW02	S	12/09/2020	1330	0-2'	1	X	X	X
SW03	S	12/09/2020	1340	0-2'	1	X	X	X
SW04	S	12/09/2020	1350	0-2'	1	X	X	X
SW05	S	12/09/2020	1400	0-2'	1	X	X	X
SW06	S	12/09/2020	1410	0-2'	1	X	X	X
SW07	S	12/09/2020	1420	0-2'	1	X	X	X
SW08	S	12/09/2020	1430	0-2'	1	X	X	X
SW09	S	12/09/2020	1440	0-3'	1	X	X	X

ANALYSIS REQUEST

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

Sample Comments

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr 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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			12.9.201637	2		
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 12.09.2020 04.32.00 PM

Work Order #: 680485

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

Temperature Measuring device used : T_NM_007

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Cloe Clifton Date: 12.09.2020

Checklist reviewed by: Jessica Kramer Date: 12.10.2020

Jessica Kramer

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Certificate of Analysis Summary 680678

LT Environmental, Inc., Arvada, CO

Project Name: Muy Wayno Frac Pond

Project Id: TE012920149
Contact: Dan Moir
Project Location:

Date Received in Lab: Thu 12.10.2020 16:54
Report Date: 01.29.2021 08:59
Project Manager: Jessica Kramer

Analysis Requested								
	Lab Id:	680678-001		680678-002				
	Field Id:	BM01		BM02				
	Depth:	0.5- ft		0.5- ft				
	Matrix:	SOIL		SOIL				
	Sampled:	12.10.2020 12:35		12.10.2020 12:45				
BTEX by EPA 8021B	***Extracted:***	12.11.2020 14:20		12.11.2020 14:20				
	Analyzed:	12.11.2020 20:48		12.11.2020 21:11				
	Units/RL:	mg/kg	RL	mg/kg	RL			
Benzene		<0.00198	0.00198	<0.00199	0.00199			
Toluene		<0.00198	0.00198	<0.00199	0.00199			
Ethylbenzene		<0.00198	0.00198	<0.00199	0.00199			
m,p-Xylenes		<0.00397	0.00397	<0.00398	0.00398			
o-Xylene		<0.00198	0.00198	<0.00199	0.00199			
Total Xylenes		<0.001980	0.001980	<0.001990	0.001990			
Total BTEX		<0.001980	0.001980	<0.001990	0.001990			
Chloride by EPA 300	***Extracted:***	12.14.2020 15:41		12.14.2020 15:41				
	Analyzed:	12.15.2020 01:27		12.15.2020 01:33				
	Units/RL:	mg/kg	RL	mg/kg	RL			
Chloride		2570	49.7	6630	49.9			
TPH by SW8015 Mod	***Extracted:***	12.11.2020 17:56		12.11.2020 17:00				
	Analyzed:	12.12.2020 06:22		12.14.2020 18:48				
	Units/RL:	mg/kg	RL	mg/kg	RL			
Gasoline Range Hydrocarbons (GRO)		<50.0	50.0	<50.0	50.0			
Diesel Range Organics (DRO)		<50.0	50.0	<50.0	50.0			
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<50.0	50.0			
Total GRO-DRO		<50.00	50.00	<50.00	50.00			
Total TPH		<50.00	50.00	<50.00	50.00			

BRL - Below Reporting Limit

Jessica Kramer

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

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Analytical Report 680678

for

LT Environmental, Inc.

Project Manager: Dan Moir

Muy Wayno Frac Pond

TE012920149

01.29.2021

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-24)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-20-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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01.29.2021

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

Reference: Eurofins Xenco, LLC Report No(s): **680678**
Muy Wayno Frac Pond
Project Address:

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 680678. 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 Eurofins Xenco, LLC. 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. 680678 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 Eurofins Xenco, LLC 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 Manager

A Small Business and Minority Company

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

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Sample Cross Reference 680678

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BM01	S	12.10.2020 12:35	0.5 ft	680678-001
BM02	S	12.10.2020 12:45	0.5 ft	680678-002

CASE NARRATIVE

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Client Name: LT Environmental, Inc.

Project Name: Muy Wayno Frac Pond

Project ID: *TE012920149*
Work Order Number(s): *680678*

Report Date: *01.29.2021*
Date Received: *12.10.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 680678

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**BM01**	Matrix:	Soil	Date Received:	12.10.2020 16:54
Lab Sample Id:	680678-001	Date Collected:	12.10.2020 12:35	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.14.2020 15:41	% Moisture:	
Seq Number:	3144853			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**2570**	49.7	mg/kg	12.15.2020 01:27		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	12.11.2020 17:56	% Moisture:	
Seq Number:	3144731			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.12.2020 06:22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.12.2020 06:22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.12.2020 06:22	U	1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.12.2020 06:22	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.12.2020 06:22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	12.12.2020 06:22	
o-Terphenyl	84-15-1	97	%	70-135	12.12.2020 06:22	

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Certificate of Analytical Results 680678

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**BM01**	Matrix:	Soil	Date Received:	12.10.2020 16:54
Lab Sample Id:	680678-001	Date Collected:	12.10.2020 12:35	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.11.2020 14:20	% Moisture:	
Seq Number:	3144728			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.11.2020 20:48	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.11.2020 20:48	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.11.2020 20:48	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.11.2020 20:48	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.11.2020 20:48	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.11.2020 20:48	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.11.2020 20:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.11.2020 20:48	
4-Bromofluorobenzene	460-00-4	114	%	70-130	12.11.2020 20:48	

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Certificate of Analytical Results 680678

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**BM02**	Matrix:	Soil	Date Received:	12.10.2020 16:54
Lab Sample Id:	680678-002	Date Collected:	12.10.2020 12:45	Sample Depth:	0.5 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.14.2020 15:41	% Moisture:	
Seq Number:	3144853			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**6630**	49.9	mg/kg	12.15.2020 01:33		5

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	12.11.2020 17:00	% Moisture:	
Seq Number:	3144878			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.14.2020 18:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.14.2020 18:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.14.2020 18:48	U	1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.14.2020 18:48	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.14.2020 18:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	12.14.2020 18:48	
o-Terphenyl	84-15-1	101	%	70-135	12.14.2020 18:48	

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Certificate of Analytical Results 680678

LT Environmental, Inc., Arvada, CO

Muy Wayno Frac Pond

Sample Id:	**BM02**	Matrix:	Soil	Date Received:	12.10.2020 16:54
Lab Sample Id:	680678-002	Date Collected:	12.10.2020 12:45	Sample Depth:	0.5 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.11.2020 14:20	% Moisture:	
Seq Number:	3144728			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.11.2020 21:11	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.11.2020 21:11	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.11.2020 21:11	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.11.2020 21:11	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.11.2020 21:11	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.11.2020 21:11	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.11.2020 21:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	115	%	70-130	12.11.2020 21:11	
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.11.2020 21:11	

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Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample 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

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QC Summary 680678

LT Environmental, Inc.

Muy Wayno Frac Pond

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3144853 — Matrix: Solid — Date Prep: 12.14.2020
MB Sample Id: 7717074-1-BLK — LCS Sample Id: 7717074-1-BKS — LCSD Sample Id: 7717074-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	262	105	264	106	90-110	1	20	mg/kg	12.14.2020 23:08	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3144853 — Matrix: Soil — Date Prep: 12.14.2020
Parent Sample Id: 680980-001 — MS Sample Id: 680980-001 S — MSD Sample Id: 680980-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	669	199	866	99	838	91	90-110	3	20	mg/kg	12.14.2020 23:24	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3144853 — Matrix: Soil — Date Prep: 12.14.2020
Parent Sample Id: 680980-011 — MS Sample Id: 680980-011 S — MSD Sample Id: 680980-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	798	200	1010	106	1000	102	90-110	1	20	mg/kg	12.15.2020 00:43	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3144878 — Matrix: Solid — Date Prep: 12.11.2020
MB Sample Id: 7716952-1-BLK — LCS Sample Id: 7716952-1-BKS — LCSD Sample Id: 7716952-1-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)	<50.0	1000	1080	108	1160	116	70-135	7	35	mg/kg	12.14.2020 10:38	
Diesel Range Organics (DRO)	<50.0	1000	1140	114	1110	111	70-135	3	35	mg/kg	12.14.2020 10:38	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	114		105		103		70-135	%	12.14.2020 10:38
o-Terphenyl	105		113		105		70-135	%	12.14.2020 10:38

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3144731 — Matrix: Solid — Date Prep: 12.11.2020
MB Sample Id: 7716950-1-BLK — LCS Sample Id: 7716950-1-BKS — LCSD Sample Id: 7716950-1-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)	<50.0	1000	922	92	913	91	70-135	1	35	mg/kg	12.11.2020 22:58	
Diesel Range Organics (DRO)	<50.0	1000	996	100	1120	112	70-135	12	35	mg/kg	12.11.2020 22:58	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		100		126		70-135	%	12.11.2020 22:58
o-Terphenyl	94		107		118		70-135	%	12.11.2020 22:58

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

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

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

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QC Summary 680678

LT Environmental, Inc.

Muy Wayno Frac Pond

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3144878 Matrix: Solid Date Prep: 12.11.2020
MB Sample Id: 7716952-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.14.2020 10:18	

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3144731 Matrix: Solid Date Prep: 12.11.2020
MB Sample Id: 7716950-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.11.2020 22:38	

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3144878 Matrix: Soil Date Prep: 12.11.2020
Parent Sample Id: 680640-001 MS Sample Id: 680640-001 S MSD Sample Id: 680640-001 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)	<49.9	997	989	99	1070	107	70-135	8	35	mg/kg	12.14.2020 11:38	
Diesel Range Organics (DRO)	<49.9	997	1110	111	994	100	70-135	11	35	mg/kg	12.14.2020 11:38	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		104		70-135	%	12.14.2020 11:38
o-Terphenyl	115		105		70-135	%	12.14.2020 11:38

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3144731 Matrix: Soil Date Prep: 12.11.2020
Parent Sample Id: 680582-001 MS Sample Id: 680582-001 S MSD Sample Id: 680582-001 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)	<50.0	999	1040	104	1110	111	70-135	7	35	mg/kg	12.11.2020 23:58	
Diesel Range Organics (DRO)	<50.0	999	1140	114	998	100	70-135	13	35	mg/kg	12.11.2020 23:58	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	98		111		70-135	%	12.11.2020 23:58
o-Terphenyl	108		116		70-135	%	12.11.2020 23:58

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

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

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

QC Summary 680678

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LT Environmental, Inc.

Muy Wayno Frac Pond

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3144728 Matrix: Solid Date Prep: 12.11.2020
MB Sample Id: 7716920-1-BLK LCS Sample Id: 7716920-1-BKS LCSD Sample Id: 7716920-1-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	0.0934	93	0.101	101	70-130	8	35	mg/kg	12.11.2020 13:39	
Toluene	<0.00200	0.100	0.0894	89	0.0928	93	70-130	4	35	mg/kg	12.11.2020 13:39	
Ethylbenzene	<0.00200	0.100	0.0919	92	0.0994	99	71-129	8	35	mg/kg	12.11.2020 13:39	
m,p-Xylenes	<0.00400	0.200	0.188	94	0.205	103	70-135	9	35	mg/kg	12.11.2020 13:39	
o-Xylene	<0.00200	0.100	0.0945	95	0.0996	100	71-133	5	35	mg/kg	12.11.2020 13:39	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	104		100		101		70-130	%	12.11.2020 13:39
4-Bromofluorobenzene	119		109		111		70-130	%	12.11.2020 13:39

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3144728 Matrix: Soil Date Prep: 12.11.2020
Parent Sample Id: 680628-007 MS Sample Id: 680628-007 S MSD Sample Id: 680628-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.0997	100	0.103	103	70-130	3	35	mg/kg	12.11.2020 14:24	
Toluene	<0.00200	0.100	0.0916	92	0.0971	97	70-130	6	35	mg/kg	12.11.2020 14:24	
Ethylbenzene	<0.00200	0.100	0.0951	95	0.103	103	71-129	8	35	mg/kg	12.11.2020 14:24	
m,p-Xylenes	<0.00401	0.200	0.194	97	0.208	104	70-135	7	35	mg/kg	12.11.2020 14:24	
o-Xylene	<0.00200	0.100	0.0944	94	0.103	103	71-133	9	35	mg/kg	12.11.2020 14:24	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		96		70-130	%	12.11.2020 14:24
4-Bromofluorobenzene	108		105		70-130	%	12.11.2020 14:24

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

XENCO LABORATORIES

Chain of Custody

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
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)

Work Order No: 680678

www.xenco.com Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 East Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	Spencer.Lo@wsp.com,Kalei.Jennings@wsp.com,Dan.Moir@wsp.com

Work Order Comments

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

Project Name:	Muy Wayno Frac Pond	Turn Around	
Project Number:	TE012920149	Routine	☑
P.O. Number:		Rush:	
Sampler's Name:	Spencer Lo	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	3.0/2.8	Thermometer ID	T-NM_007
Received Intact:	(Yes) No		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	2

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
FS19	S	12/10/2020	1235	0.5'	1	X	X	X	
FS20	S	12/10/2020	1245	0.5'	1	X	X	X	

Work Order Notes

TAT starts the day recevied by the lab, if received by 4:30pm

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

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1 [signature]	[signature]	12-10-20 1654	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 12.10.2020 04.54.00 PM

Work Order #: 680678

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?	**Yes**	
#5 Custody Seals intact on sample bottles?	**Yes**	
#6*Custody Seals Signed and dated?	**Yes**	
#7 *Chain of Custody present?	**Yes**	
#8 Any missing/extra samples?	**Yes**	
#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?	**No**	Samples received in bulk containers.
#13 Samples properly preserved?	**Yes**	
#14 Sample container(s) intact?	**Yes**	
#15 Sufficient sample amount for indicated test(s)?	**Yes**	
#16 All samples received within hold time?	**Yes**	
#17 Subcontract of sample(s)?	**No**	
#18 Water VOC samples have zero headspace?	**N/A**	

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

Analyst: PH Device/Lot#:

Checklist completed by: Cloe Clifton Date: 12.10.2020

Checklist reviewed by: Jessica Kramer Date: 12.11.2020

Jessica Kramer

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Certificate of Analysis Summary 681699

WSP USA, Dallas, TX

Project Name: Muy Wayno Frac Pond

Project Id: TE012920149
Contact: Kalei Jennings
Project Location:

Date Received in Lab: Thu 12.17.2020 15:53
Report Date: 01.29.2021 09:11
Project Manager: Jessica Kramer

Analysis Requested															
	Lab Id:	681699-001		681699-002		681699-003		681699-004							
	Field Id:	FS18		FS19		FS20		SW10							
	Depth:	4- ft		3- ft		4- ft		0-2 ft							
	Matrix:	SOIL		SOIL		SOIL		SOIL							
	Sampled:	12.17.2020 12:59		12.17.2020 11:55		12.17.2020 13:11		12.17.2020 12:31							
BTEX by EPA 8021B	***Extracted:***	12.17.2020 17:11		12.17.2020 17:11		12.17.2020 17:11		12.17.2020 17:11							
	Analyzed:	12.18.2020 08:20		12.18.2020 17:35		12.18.2020 17:58		12.18.2020 18:20							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Benzene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198						
Toluene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198						
Ethylbenzene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198						
m,p-Xylenes		<0.00401	0.00401	<0.00399	0.00399	<0.00399	0.00399	<0.00397	0.00397						
o-Xylene		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198						
Total Xylenes		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198						
Total BTEX		<0.00200	0.00200	<0.00200	0.00200	<0.00200	0.00200	<0.00198	0.00198						
Chloride by EPA 300	***Extracted:***	12.18.2020 14:56		12.18.2020 14:56		12.18.2020 14:56		12.18.2020 14:56							
	Analyzed:	12.19.2020 18:52		12.19.2020 18:58		12.19.2020 19:04		12.19.2020 19:10							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Chloride		516	9.96	222	10.1	1890	9.94	71.4	9.98						
TPH by SW8015 Mod	***Extracted:***	12.17.2020 17:01		12.17.2020 16:57		12.17.2020 16:57		12.17.2020 17:01							
	Analyzed:	12.18.2020 04:26		12.18.2020 12:35		12.18.2020 12:55		12.18.2020 12:55							
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL						
Gasoline Range Hydrocarbons (GRO)		<50.2	50.2	<49.8	49.8	<49.9	49.9	<49.9	49.9						
Diesel Range Organics (DRO)		<50.2	50.2	<49.8	49.8	<49.9	49.9	<49.9	49.9						
Motor Oil Range Hydrocarbons (MRO)		<50.2	50.2	<49.8	49.8	<49.9	49.9	<49.9	49.9						
Total GRO-DRO		<50.2	50.2	<49.8	49.8	<49.9	49.9	<49.9	49.9						
Total TPH		<50.2	50.2	<49.8	49.8	<49.9	49.9	<49.9	49.9						

BRL - Below Reporting Limit

Jessica Kramer

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

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Analytical Report 681699

for

WSP USA

Project Manager: Kalei Jennings

Muy Wayno Frac Pond

TE012920149

01.29.2021

Collected By: Client

1089 N Canal Street
Carlsbad, NM 88220

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-38), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2020-014), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-26), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-18)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-24)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-20-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TNI02385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)

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01.29.2021

Project Manager: **Kalei Jennings**
WSP USA
2777 N. Stemmons Freeway, Suite 1600
Dallas, TX 75207

Reference: Eurofins Xenco, LLC Report No(s): **681699**
Muy Wayno Frac Pond
Project Address:

Kalei Jennings:

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 Eurofins Xenco, LLC Report Number(s) 681699. 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 Eurofins Xenco, LLC. 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. 681699 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 Eurofins Xenco, LLC 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 Manager

A Small Business and Minority Company

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

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Sample Cross Reference 681699

WSP USA, Dallas, TX

Muy Wayno Frac Pond

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS18	S	12.17.2020 12:59	4 ft	681699-001
FS19	S	12.17.2020 11:55	3 ft	681699-002
FS20	S	12.17.2020 13:11	4 ft	681699-003
SW10	S	12.17.2020 12:31	0 - 2 ft	681699-004

CASE NARRATIVE

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Client Name: WSP USA

Project Name: Muy Wayno Frac Pond

Project ID: *TE012920149*
Work Order Number(s): *681699*

Report Date: *01.29.2021*
Date Received: *12.17.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

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Certificate of Analytical Results 681699

WSP USA, Dallas, TX

Muy Wayno Frac Pond

Sample Id:	**FS18**	Matrix:	Soil	Date Received:	12.17.2020 15:53
Lab Sample Id:	681699-001	Date Collected:	12.17.2020 12:59	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.18.2020 14:56	% Moisture:	
Seq Number:	3145462			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**516**	9.96	mg/kg	12.19.2020 18:52		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	CAC				
Analyst:	CAC	Date Prep:	12.17.2020 17:01	% Moisture:	
Seq Number:	3145454			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.18.2020 04:26	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.18.2020 04:26	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.18.2020 04:26	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	12.18.2020 04:26	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.18.2020 04:26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	12.18.2020 04:26	
o-Terphenyl	84-15-1	98	%	70-135	12.18.2020 04:26	

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Certificate of Analytical Results 681699

WSP USA, Dallas, TX

Muy Wayno Frac Pond

Sample Id:	**FS18**	Matrix:	Soil	Date Received:	12.17.2020 15:53
Lab Sample Id:	681699-001	Date Collected:	12.17.2020 12:59	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:11	% Moisture:	
Seq Number:	3145455			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.18.2020 08:20	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.18.2020 08:20	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.18.2020 08:20	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.18.2020 08:20	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.18.2020 08:20	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.18.2020 08:20	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.18.2020 08:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	120	%	70-130	12.18.2020 08:20	
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.18.2020 08:20	

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Certificate of Analytical Results 681699

WSP USA, Dallas, TX

Muy Wayno Frac Pond

Sample Id:	**FS19**	Matrix:	Soil	Date Received:	12.17.2020 15:53
Lab Sample Id:	681699-002	Date Collected:	12.17.2020 11:55	Sample Depth:	3 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.18.2020 14:56	% Moisture:	
Seq Number:	3145462			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**222**	10.1	mg/kg	12.19.2020 18:58		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	12.17.2020 16:57	% Moisture:	
Seq Number:	3145453			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.18.2020 12:35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.18.2020 12:35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.18.2020 12:35	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	12.18.2020 12:35	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.18.2020 12:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	12.18.2020 12:35	
o-Terphenyl	84-15-1	105	%	70-135	12.18.2020 12:35	

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Certificate of Analytical Results 681699

WSP USA, Dallas, TX

Muy Wayno Frac Pond

Sample Id:	**FS19**	Matrix:	Soil	Date Received:	12.17.2020 15:53
Lab Sample Id:	681699-002	Date Collected:	12.17.2020 11:55	Sample Depth:	3 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:11	% Moisture:	
Seq Number:	3145455			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.18.2020 17:35	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.18.2020 17:35	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.18.2020 17:35	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.18.2020 17:35	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.18.2020 17:35	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.18.2020 17:35	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.18.2020 17:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.18.2020 17:35	
4-Bromofluorobenzene	460-00-4	123	%	70-130	12.18.2020 17:35	

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Certificate of Analytical Results 681699

WSP USA, Dallas, TX

Muy Wayno Frac Pond

Sample Id:	**FS20**	Matrix:	Soil	Date Received:	12.17.2020 15:53
Lab Sample Id:	681699-003	Date Collected:	12.17.2020 13:11	Sample Depth:	4 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.18.2020 14:56	% Moisture:	
Seq Number:	3145462			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**1890**	9.94	mg/kg	12.19.2020 19:04		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	12.17.2020 16:57	% Moisture:	
Seq Number:	3145453			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.18.2020 12:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.18.2020 12:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.18.2020 12:55	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.18.2020 12:55	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.18.2020 12:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	12.18.2020 12:55	
o-Terphenyl	84-15-1	97	%	70-135	12.18.2020 12:55	

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Certificate of Analytical Results 681699

WSP USA, Dallas, TX

Muy Wayno Frac Pond

Sample Id:	**FS20**	Matrix:	Soil	Date Received:	12.17.2020 15:53
Lab Sample Id:	681699-003	Date Collected:	12.17.2020 13:11	Sample Depth:	4 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:11	% Moisture:	
Seq Number:	3145455			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.18.2020 17:58	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.18.2020 17:58	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.18.2020 17:58	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.18.2020 17:58	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.18.2020 17:58	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.18.2020 17:58	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.18.2020 17:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	118	%	70-130	12.18.2020 17:58	
1,4-Difluorobenzene	540-36-3	107	%	70-130	12.18.2020 17:58	

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Certificate of Analytical Results 681699

WSP USA, Dallas, TX

Muy Wayno Frac Pond

Sample Id:	**SW10**	Matrix:	Soil	Date Received:	12.17.2020 15:53
Lab Sample Id:	681699-004	Date Collected:	12.17.2020 12:31	Sample Depth:	0 - 2 ft

Analytical Method:	Chloride by EPA 300			Prep Method:	E300P
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.18.2020 14:56	% Moisture:	
Seq Number:	3145462			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	**71.4**	9.98	mg/kg	12.19.2020 19:10		1

Analytical Method:	TPH by SW8015 Mod			Prep Method:	SW8015P
Tech:	MAB				
Analyst:	CAC	Date Prep:	12.17.2020 17:01	% Moisture:	
Seq Number:	3145454			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.18.2020 12:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.18.2020 12:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.18.2020 12:55	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.18.2020 12:55	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.18.2020 12:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	12.18.2020 12:55	
o-Terphenyl	84-15-1	109	%	70-135	12.18.2020 12:55	

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Certificate of Analytical Results 681699

WSP USA, Dallas, TX

Muy Wayno Frac Pond

Sample Id:	**SW10**	Matrix:	Soil	Date Received:	12.17.2020 15:53
Lab Sample Id:	681699-004	Date Collected:	12.17.2020 12:31	Sample Depth:	0 - 2 ft
Analytical Method:	BTEX by EPA 8021B			Prep Method:	SW5035A
Tech:	MAB				
Analyst:	MAB	Date Prep:	12.17.2020 17:11	% Moisture:	
Seq Number:	3145455			Basis:	Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.18.2020 18:20	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.18.2020 18:20	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.18.2020 18:20	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.18.2020 18:20	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.18.2020 18:20	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.18.2020 18:20	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.18.2020 18:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.18.2020 18:20	
4-Bromofluorobenzene	460-00-4	116	%	70-130	12.18.2020 18:20	

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Flagging Criteria

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

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

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

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

F RPD exceeded lab control limits.

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

U Analyte was not detected.

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

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

K Sample analyzed outside of recommended hold time.

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **ND** Not Detected.

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample 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 681699

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WSP USA

Muy Wayno Frac Pond

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145462 — Matrix: Solid — Date Prep: 12.18.2020
MB Sample Id: 7717458-1-BLK — LCS Sample Id: 7717458-1-BKS — LCSD Sample Id: 7717458-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	237	95	246	98	90-110	4	20	mg/kg	12.19.2020 17:34	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145462 — Matrix: Soil — Date Prep: 12.18.2020
Parent Sample Id: 681592-010 — MS Sample Id: 681592-010 S — MSD Sample Id: 681592-010 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2570	199	2760	95	2760	95	90-110	0	20	mg/kg	12.19.2020 17:52	

Analytical Method: Chloride by EPA 300 — Prep Method: E300P
Seq Number: 3145462 — Matrix: Soil — Date Prep: 12.18.2020
Parent Sample Id: 681699-004 — MS Sample Id: 681699-004 S — MSD Sample Id: 681699-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	71.4	200	281	105	280	104	90-110	0	20	mg/kg	12.19.2020 19:16	

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145453 — Matrix: Solid — Date Prep: 12.17.2020
MB Sample Id: 7717422-1-BLK — LCS Sample Id: 7717422-1-BKS — LCSD Sample Id: 7717422-1-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)	<50.0	1000	1060	106	1090	109	70-135	3	35	mg/kg	12.18.2020 03:45	
Diesel Range Organics (DRO)	<50.0	1000	1070	107	1050	105	70-135	2	35	mg/kg	12.18.2020 03:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	110		104		110		70-135	%	12.18.2020 03:45
o-Terphenyl	110		101		103		70-135	%	12.18.2020 03:45

Analytical Method: TPH by SW8015 Mod — Prep Method: SW8015P
Seq Number: 3145454 — Matrix: Solid — Date Prep: 12.17.2020
MB Sample Id: 7717423-1-BLK — LCS Sample Id: 7717423-1-BKS — LCSD Sample Id: 7717423-1-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)	<50.0	1000	1010	101	1160	116	70-135	14	35	mg/kg	12.18.2020 03:45	
Diesel Range Organics (DRO)	<50.0	1000	1010	101	1130	113	70-135	11	35	mg/kg	12.18.2020 03:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		114		115		70-135	%	12.18.2020 03:45
o-Terphenyl	122		105		115		70-135	%	12.18.2020 03:45

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 681699

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WSP USA

Muy Wayno Frac Pond

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3145453 Matrix: Solid Date Prep: 12.17.2020
MB Sample Id: 7717422-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.18.2020 03:25	

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3145454 Matrix: Solid Date Prep: 12.17.2020
MB Sample Id: 7717423-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.18.2020 03:25	

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3145453 Matrix: Soil Date Prep: 12.17.2020
Parent Sample Id: 681582-002 MS Sample Id: 681582-002 S MSD Sample Id: 681582-002 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)	<49.9	998	1120	112	1020	102	70-135	9	35	mg/kg	12.18.2020 04:46	
Diesel Range Organics (DRO)	<49.9	998	1050	105	1120	112	70-135	6	35	mg/kg	12.18.2020 04:46	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	114		100		70-135	%	12.18.2020 04:46
o-Terphenyl	113		117		70-135	%	12.18.2020 04:46

Analytical Method: **TPH by SW8015 Mod** Prep Method: SW8015P
Seq Number: 3145454 Matrix: Soil Date Prep: 12.17.2020
Parent Sample Id: 681699-001 MS Sample Id: 681699-001 S MSD Sample Id: 681699-001 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)	<50.2	1000	1190	119	1110	111	70-135	7	35	mg/kg	12.18.2020 04:46	
Diesel Range Organics (DRO)	<50.2	1000	1210	121	1170	117	70-135	3	35	mg/kg	12.18.2020 04:46	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		108		70-135	%	12.18.2020 04:46
o-Terphenyl	114		102		70-135	%	12.18.2020 04:46

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

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

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

QC Summary 681699

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WSP USA

Muy Wayno Frac Pond

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3145455 Matrix: Solid Date Prep: 12.17.2020
MB Sample Id: 7717415-1-BLK LCS Sample Id: 7717415-1-BKS LCSD Sample Id: 7717415-1-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	0.0992	99	0.0996	100	70-130	0	35	mg/kg	12.18.2020 06:15	
Toluene	<0.00200	0.100	0.0896	90	0.0919	92	70-130	3	35	mg/kg	12.18.2020 06:15	
Ethylbenzene	<0.00200	0.100	0.0926	93	0.0944	94	71-129	2	35	mg/kg	12.18.2020 06:15	
m,p-Xylenes	<0.00400	0.200	0.191	96	0.194	97	70-135	2	35	mg/kg	12.18.2020 06:15	
o-Xylene	<0.00200	0.100	0.0953	95	0.0982	98	71-133	3	35	mg/kg	12.18.2020 06:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		105		104		70-130	%	12.18.2020 06:15
4-Bromofluorobenzene	115		110		110		70-130	%	12.18.2020 06:15

Analytical Method: **BTEX by EPA 8021B** Prep Method: SW5035A
Seq Number: 3145455 Matrix: Soil Date Prep: 12.17.2020
Parent Sample Id: 681699-001 MS Sample Id: 681699-001 S MSD Sample Id: 681699-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.0998	0.0946	95	0.0906	91	70-130	4	35	mg/kg	12.18.2020 07:00	
Toluene	<0.00200	0.0998	0.0806	81	0.0772	78	70-130	4	35	mg/kg	12.18.2020 07:00	
Ethylbenzene	<0.00200	0.0998	0.0759	76	0.0761	77	71-129	0	35	mg/kg	12.18.2020 07:00	
m,p-Xylenes	<0.00399	0.200	0.151	76	0.149	75	70-135	1	35	mg/kg	12.18.2020 07:00	
o-Xylene	<0.00200	0.0998	0.0761	76	0.0784	79	71-133	3	35	mg/kg	12.18.2020 07:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		102		70-130	%	12.18.2020 07:00
4-Bromofluorobenzene	115		118		70-130	%	12.18.2020 07:00

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

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
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)
www.xenco.com

Work Order No: 620 1699

Page 1 of 1

Project Manager:	Kalei Jennings	Bill to: (if different)	Kyle Littrell
Company Name:	WSP USA Inc.	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 E Green Street
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	432.236.3849	Email:	luis.delval@wsp.com; kalei.jennings@wsp.com

Work Order Comments

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

Project Name:	Muy Wayno Frac Pond	Turn Around	
Project Number:	TE012920149	Routine	☒
P.O. Number:		Rush:	
Sampler's Name:	Luis Del Val	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	1.2/1.0	Thermometer ID	
Received Intact:	(Yes) No	T-NM-007	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	-0.2
Sample Custody Seals:	Yes (No) N/A	Total Containers:	4

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Work Order Notes / Sample Comments
FS19	S	12/17/2020	1259	4'	1	X	X	X	Composite Sample
FS20	S	12/17/2020	1155	3'	1	X	X	X	Composite Sample
FS21	S	12/17/2020	1311	4'	1	X	X	X	Composite Sample
SW10	S	12/17/2020	1231	0-2'	1	X	X	X	Composite Sample

ANALYSIS REQUEST

TAT starts the day recevied by the lab, if received by 4:30pm

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

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

	Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1			12.17.20 1553	2		
3				4		
5				6		

Revised Date 051418 Rev. 2018.1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: WSP USA

Date/ Time Received: 12.17.2020 03.53.00 PM

Work Order #: 681699

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

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

Analyst: PH Device/Lot#:

Checklist completed by: Cloe Clifton Date: 12.17.2020

Checklist reviewed by: Jessica Kramer Date: 12.18.2020

Jessica Kramer

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 16261

CONDITIONS OF APPROVAL

Operator:	OGRID:	Action Number:	Action Type:
XTO ENERGY, INC 6401 Holiday Hill Road Building #5 Midland, TX79707	5380	16261	C-141

OCD Reviewer	Condition
chensley	None