

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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

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

Incident ID	NRM2014262411
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

Latitude 32.373225 Longitude -103.875370
(NAD 83 in decimal degrees to 5 decimal places)

Site Name James Ranch Unit 21 SWD Riser	Site Type SWD riser
Date Release Discovered 5-7-2020	API# (if applicable)

Unit Letter	Section	Township	Range	County
M	22	22S	30E	Eddy

Surface Owner: ☐ State ☒ Federal ☐ Tribal ☐ Private (Name: _____)

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 542.92	Volume Recovered (bbls) 360
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

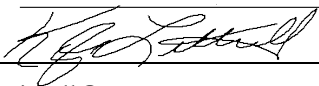
The check valve on the #1 discharge pump failed, causing produced water to release onto the right-of-way and pasture. A third-party contractor has been retained for remediation activities.

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Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? A release of an amount greater than 25 barrels.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? YES, by Adrian Baker to Mike.Bratcher@state.nm.us; Venegas, Victoria, EMNRD; Robert.Hamlet@state.nm.us; 'Griswold, Jim, EMNRD'; Morgan, Crisha A; blm_nm_cfo_spill@blm.gov via email on Thursday, May 7, 2020 7:21 PM.	

Initial Response

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

☒ The source of the release has been stopped. ☒ The impacted area has been secured to protect human health and the environment. ☒ Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. ☒ All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: N/A	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: Kyle Littrell	Title: SH&E Supervisor
Signature: 	Date: 5-21-20
email: Kyle_Littrell@xtoenergy.com	Telephone: 432-221-7331
<u>OCD Only</u>	
Received by: Ramona Marcus	Date: 5/21/2020

NRM2014262411

Location:	JRU 21 SWD Riser	
Spill Date:	5/7/2020	
Area 1		
Approximate Area =	367.00	sq. ft.
Average Saturation (or depth) of spill =	12.00	inches
Average Porosity Factor = 0.15		
VOLUME OF LEAK		
Total Produced Water =	369.80	bbls
Area 2		
Approximate Area =	4379.00	sq. ft.
Average Saturation (or depth) of spill =	0.25	inches
Average Porosity Factor = 0.15		
VOLUME OF LEAK		
Total Produced Water =	2.64	bbls
Area 3		
Approximate Area =	1820.00	sq. ft.
Average Saturation (or depth) of spill =	10.00	inches
Average Porosity Factor = 0.15		
VOLUME OF LEAK		
Total Produced Water =	40.52	bbls
Area 4		
Approximate Area =	1154.00	sq. ft.
Average Saturation (or depth) of spill =	12.00	inches
Average Porosity Factor = 0.15		
VOLUME OF LEAK		
Total Produced Water =	30.83	bbls
Area 5		
Approximate Area =	7421.00	sq. ft.
Average Saturation (or depth) of spill =	6.00	inches
Average Porosity Factor = 0.15		
VOLUME OF LEAK		
Total Produced Water =	99.13	bbls
TOTAL VOLUME OF LEAK		
Total Produced Water =	542.92	bbls
TOTAL VOLUME RECOVERED		
Total Produced Water =	360.00	bbls

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Site Assessment/Characterization

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

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

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

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

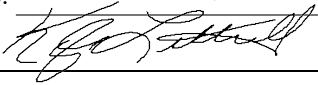
- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☒ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile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

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

State of New Mexico
Oil Conservation Division

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

Printed Name: Kyle Littrell Title: SH&E Supervisor
Signature:  Date: 02/03/2021
email: Kyle_Littrell@xtoenergy.com Telephone: 432-221-7331

OCD Only

Received by: _____ Date: _____

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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 19.15.29.12NMAC.

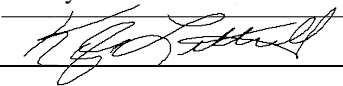
Closure Report Attachment Checklist: Each of the following items must be included in the closure report.

- ☒ 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: 02/03/2021

email: Kyle_Littrell@xtoenergy.com

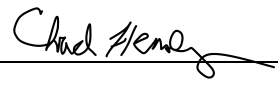
Telephone: 432-221-7331

OCD Only

Received by: Chad Hensley

Date: 08/19/2021

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: 

Date: 08/19/2021

Printed Name: Chad Hensley

Title: Environmental Specialist Advanced

File Number: C-3015

NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

1. OWNER OF WELL

Name: U.S. Department of Energy/WIPP Work Phone: 505-234-7349
 Contact: Harold Johnson Home Phone: _____
 Address: P.O. Box 3090
 City: Carlsbad State: NM Zip: 88221

2. LOCATION OF WELL (A, B, C, or D required, E or F if known)

A. NW 1/4 SE 1/4 SW 1/4 Section: 22 Township: 22 S Range: 30 E N.M.P.M.
 in _____ County.
 B. X = _____ feet, Y = _____ feet, N.M. Coordinate System
 Zone in the _____ Grant.
 U.S.G.S. Quad Map _____
 C. Latitude: _____ d _____ m _____ s Longitude: _____ d _____ m _____ s
 D. East 606171 (m), North 3582253 (m), UTM Zone 13, NAD 27 (27 or 83)
 E. Tract No. _____, Map No. _____ of the _____ Hydrographic Survey
 F. Lot No. _____, Block No. _____ of Unit/Tract _____ of the
 _____ Subdivision recorded in _____ County.
 G. Other: _____
 H. Give State Engineer File Number if existing well: C-3015
 I. On land owned by (required): BLM

3. DRILLING CONTRACTOR

License Number: WD 314
 Name: Stewart Brothers Brlg. Work Phone: 505-287-2986
 Agent: Phillip Stewart Home Phone: _____
 Mailing Address: P.O. Box 2067
 City: Milan State: NM Zip: 87020

4. DRILLING RECORD

Drilling began: 1-21-04; Completed: 1-25-04; Type tools: Mud rotary
 Size of hole: 5 1/8 in.; Total depth of well: 1316 ft.;
 Completed well is: artesian (shallow, artesian);
 Depth to water upon completion of well: 262 ft.

File Number: C-3015
 Form: wr-20

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Trn Number: 288525

STATE ENGINEER OFFICE
 ROSWELL, NEW MEXICO

2004 MAR -4
 AM 10:37

File Number: C-3015

NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet		Thickness	Description of water-bearing formation	Estimated Yield (GPM)
From	To	in feet		
362	385	24	Dolomite	

6. RECORD OF CASING

Diameter (inches)	Pounds per ft.	Threads per in.	Depth in Feet		Length (feet)	Type of Shoe	Perforations	
			Top	Bottom			From	To
6 in.	18	N/A	0	20	20	open	N/A	
2 in.	sc80PVC	4	+2.1	401.1	403.2	PVC cap	361	386

7. RECORD OF MUDDING AND CEMENTING

Depth in Feet		Hole Diameter	Sacks of mud	Cubic Feet of Cement	Method of Placement	
From	To					
1316	410	5 1/8		130	Through drill pipe	
410	355	5 1/8		8-12	Colorado Silica	6.25 cu.ft.
355	343	5 1/8		Bentonite Pellets		1.35 cu.ft.
355	0	5 1/8		Bentonite grout		41.00 cu.ft.
0	20	8 3/4		7	pressure grout surface	csg.

8. PLUGGING RECORD

Plugging Contractor: _____
 Address: _____
 Plugging Method: _____
 Date Well Plugged: _____

Plugging approved by: _____
 State Engineer Representative

No.	Depth Top	in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			
5			

2004 MAR -4 AM 10:37

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICOFile Number: C-3015

Form: wr-20

Trn Number: 288525

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File Number: C-3015

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

[illegible]

Z001117-4 AH ID: 37

STATE ENGINEER OFFICE
ROSBELL, NEW MEXICO

File Number: C-3015
Form: wr-20

Trn Number: 288525

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NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Drilled as potash core hole, converted to Culebra
monitoring well (piezometer) for DOE/WIPP. No water
will be appropriated.

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

Thomas D. Short
Driller

3-1-04
(mm/dd/year)

2004 MAR -4 11AM 10:37

STATE ENGINEER OFFICE
ROSWELL, NEW MEXICO

FOR STATE ENGINEER USE ONLY

Quad ____; FWL ____; FSL ____; Use ____; Location No. ____

File Number: _____
Form: wr-20

page 4 of 4

Trn Number: _____



WSP USA

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

February 4, 2021

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

**RE: Closure Request
James Ranch Unit 21 SWD Riser
Incident Number NRM2014262411
Eddy County, New Mexico**

To Whom It May Concern:

WSP USA Inc. on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request detailing site assessment, soil sampling, and excavation activities at the James Ranch Unit (JRU) 21 SWD Riser (Site) in Unit M, Section 22, Township 22 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment, soil sampling, and excavation activities was to address impacts to soil following a release of produced water at the Site. Based on the excavation activities and results of the soil sampling events, XTO is submitting this Closure Request, describing remediation that has occurred and requesting no further action (NFA) for Incident Number NRM2014262411.

RELEASE BACKGROUND

On May 7, 2020, the check valve on a discharge pump failed, resulting in the release of approximately 542.92 barrels (bbls) of produced water onto the surrounding right of way and pasture area. A vacuum truck was dispatched to the Site to recover free-standing fluids; approximately 360 bbls of produced water were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) immediately via email on May 7, 2020 and subsequently submitted a Release Notification and Corrective Action Form C-141 (Form C-141) on May 21, 2020. The release was assigned Incident Number NRM2014262411.

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 New Mexico Office of the State Engineer (NMOSE) well C-03015, located approximately 0.2 miles east of the Site. The groundwater well was most recently measured in January 2004 has a reported depth to groundwater of 262 feet bgs and a



total depth of 1,316 feet bgs. Ground surface elevation at the groundwater well location is 3,285 feet above mean sea level (amsl), which is approximately 5 feet higher in elevation than the Site. There are four additional groundwater wells within a 2-mile radius of the Site that indicate regional depth to groundwater is greater than 100 feet bgs. All wells used for depth to groundwater determination are depicted on Figure 1. The referenced well records are included in Attachment 1. There are no regional or Site-specific hydrological conditions, such as shallow surface water, karst features, wetlands, or vegetation that suggest the Site is conducive to shallow groundwater.

The closest continuously flowing or significant watercourse to the Site is an intermittent stream, located approximately 600 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 (medium 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 4 feet of the pasture area that was impacted by the release, per NMAC 19.15.29.13.D (1) for the top 4 feet of areas that will be reclaimed following remediation.

SITE ASSESSMENT ACTIVITIES AND ANALYTICAL RESULTS

On May 14, 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 fifteen preliminary assessment soil samples (SS01 through SS15) within the release extent from a depth of approximately 0.5 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 SS01, SS09, SS11, and SS12 indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and compliant with the reclamation standard for the top four feet of the subsurface. Laboratory analytical results for preliminary soil samples SS02 through SS08, SS10, and SS13 through SS15, indicated that chloride concentrations exceeded the reclamation standard. 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.

EXCAVATION AND DELINEATION SOIL SAMPLING ACTIVITIES

Further delineation and remediation efforts were postponed due to Bureau of Land Management (BLM) approval to disturb the area and coordinating the Site to be surveyed by an archaeologist. Per 19.15.29.12.B.(1) NMAC, three extensions for submission of a remediation plan or closure report were requested and approved by the NMOCD. The initial extension was requested and approved on August 5, 2020, the second was approved November 5, 2020, and the final extension was approved November 2, 2020, extending the deadline to February 5, 2021.

Between November 10, 2020 and December 29, 2020, WSP personnel were at the Site to oversee site assessment and excavation activities. Boreholes were advanced via hand auger at fourteen locations within and around the release extent to assess the lateral and vertical extent of impacted soil. Boreholes BH01 through BH14 were advanced to depths ranging from 2 feet to 8 feet bgs. Delineation soil samples were collected from each borehole from depths ranging from 1 foot to 8 feet bgs. 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 borehole and delineation soil sample locations are depicted on Figure 3.

Impacted soil was excavated from the release area as indicated by visible staining, 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 in the right of way and surrounding pasture. 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 at least 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 SW20 were collected from the sidewalls of the excavation from depths ranging from the ground surface to 4 feet bgs. Composite soil samples FS01 through FS76 were collected from the floor of the excavation from depths ranging from 2 feet bgs to 4 feet bgs. The excavation soil samples were collected, handled, and analyzed following the same procedures as described above. The excavation extent and excavation soil sample locations are presented on Figure 4.

The excavation area measured approximately 14,412 square feet. A total of approximately 1,533 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 areas were secured with fencing.

SOIL ANALYTICAL RESULTS

Laboratory analytical results for preliminary soil samples SS01, SS09, SS11, and SS12 indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and compliant with the reclamation standard in samples collected in the pasture from the top four feet of the subsurface. Laboratory analytical results for preliminary soil samples SS02 through SS08, SS10, and SS13 through SS15, indicated that chloride concentrations exceeded the reclamation standard.

Laboratory analytical results for the delineation soil samples collected from boreholes BH01 through BH03, BH05 through BH08, and BH10 through BH14 indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and compliant with the reclamation standard in samples collected in the pasture from the top four feet of the subsurface. Laboratory analytical results indicated that chloride concentrations exceeded the reclamation standard in delineation soil samples BH04, BH09, and BH09A.

Based on laboratory analytical results for the preliminary and delineation soil samples, impacted soil was excavated. Laboratory analytical results for excavation sidewall samples SW01 through SW06, SW08 through SW13, and SW17 through SW20, and floor samples FS01 through FS07, and FS09 through FS76 indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and compliant with the reclamation

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standard in samples collected in the pasture from the top four feet of the subsurface. Excavation floor sample FS08, collected at 2 feet bgs, initially exceeded the reclamation standard. Additional soil was removed from this area and subsequent floor sample FS43, collected at 4 feet bgs from the final excavation extent, was compliant with the Closure Criteria. Excavation sidewall samples SW07 and SW14 through SW16, collected from sidewalls adjacent to the buried pipeline, initially exceeded the reclamation standard. The sidewalls associated these samples were excavated and completely removed, and the pipeline was exposed in the floor of the excavation. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included as Attachment 4.

CLOSURE REQUEST

Site assessment and excavation activities were conducted at the Site to address the May 7, 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.

Initial response efforts which included removal of freestanding fluids via hydrovac and excavation of impacted soil have 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 NRM2014262411.

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

Sincerely,

WSP USA Inc.

A handwritten signature in black ink that reads "Elizabeth Naka".

Elizabeth Naka
Assistant Consultant, Environmental Scientist

A handwritten signature in black ink that reads "Ashley L. Ager".

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



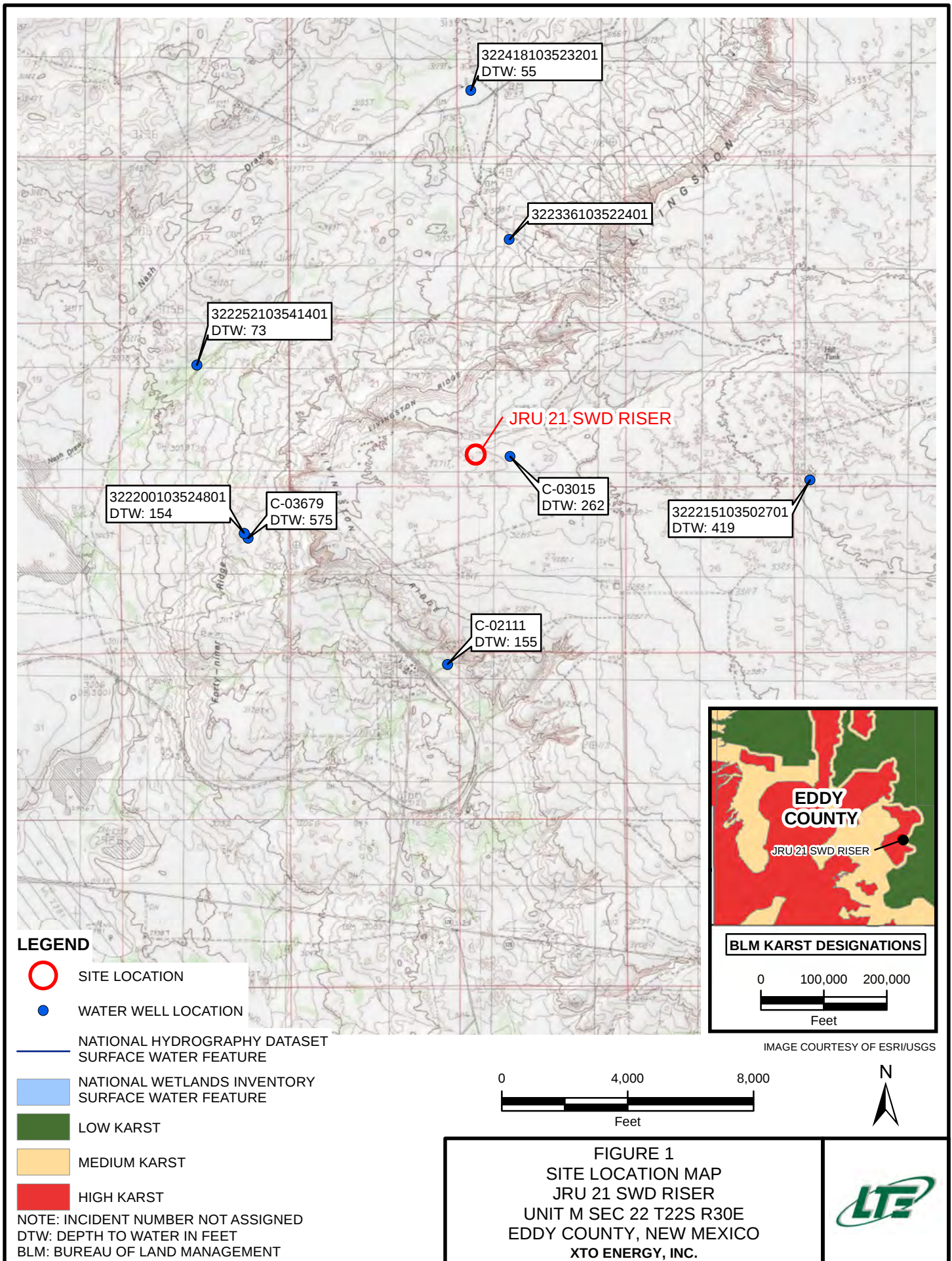
District II
Page 6

cc: Kyle Littrell, XTO
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



SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
 SAMPLE DATE
 NMOCD TABLE 1 CLOSURE CRITERIA (NMAC 19.15.29.12)
 B = 10 mg/kg
 BTEX = 50 mg/kg
 GRO+DRO = 1,000 mg/kg
 TPH = 2,500 mg/kg
 Cl = 20,000 mg/kg
 NMOCD RECLAMATION CLOSURE CRITERIA FOR TOP FOUR
 FEET OF AREAS TO BE RECLAIMED (NMAC 19.15.29.13.D (1))
 Cl = 600 mg/kg
 ALL RESULTS IN MILLIGRAMS PER KILOGRAM (mg/kg)
 <: INDICATES RESULT IS LESS THAN THE
 LABORATORY REPORTING LIMIT
BOLD: INDICATES RESULT EXCEEDS THE
 APPLICABLE REGULATORY CLOSURE CRITERIA

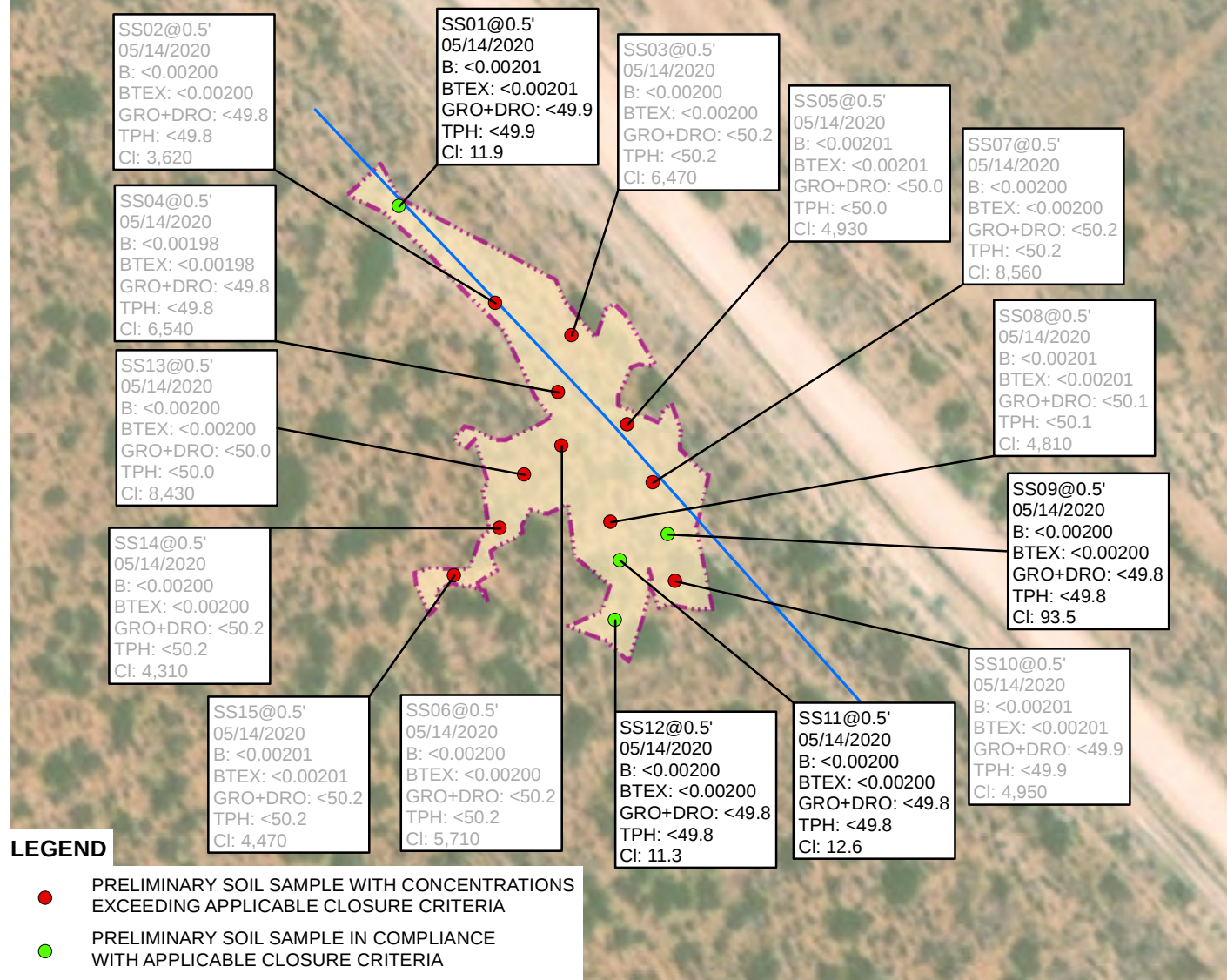


IMAGE COURTESY OF ESRI

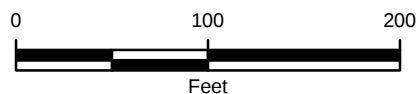


FIGURE 2
PRELIMINARY SOIL SAMPLE LOCATIONS
JRU 21 SWD RISER
UNIT M SEC 22 T22S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.





IMAGE COURTESY OF ESRI

LEGEND

DELINEATION SOIL SAMPLE IN COMPLIANCE
WITH APPLICABLE CLOSURE CRITERIA



WATER LINE



RELEASE EXTENT

NOTE: REMEDIATION PERMIT NUMBER NRM2014262411
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)
TEXT: INDICATES SOIL REPRESENTED BY SAMPLE
THAT WAS REMOVED

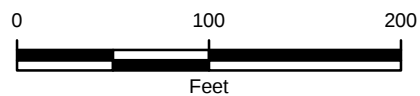
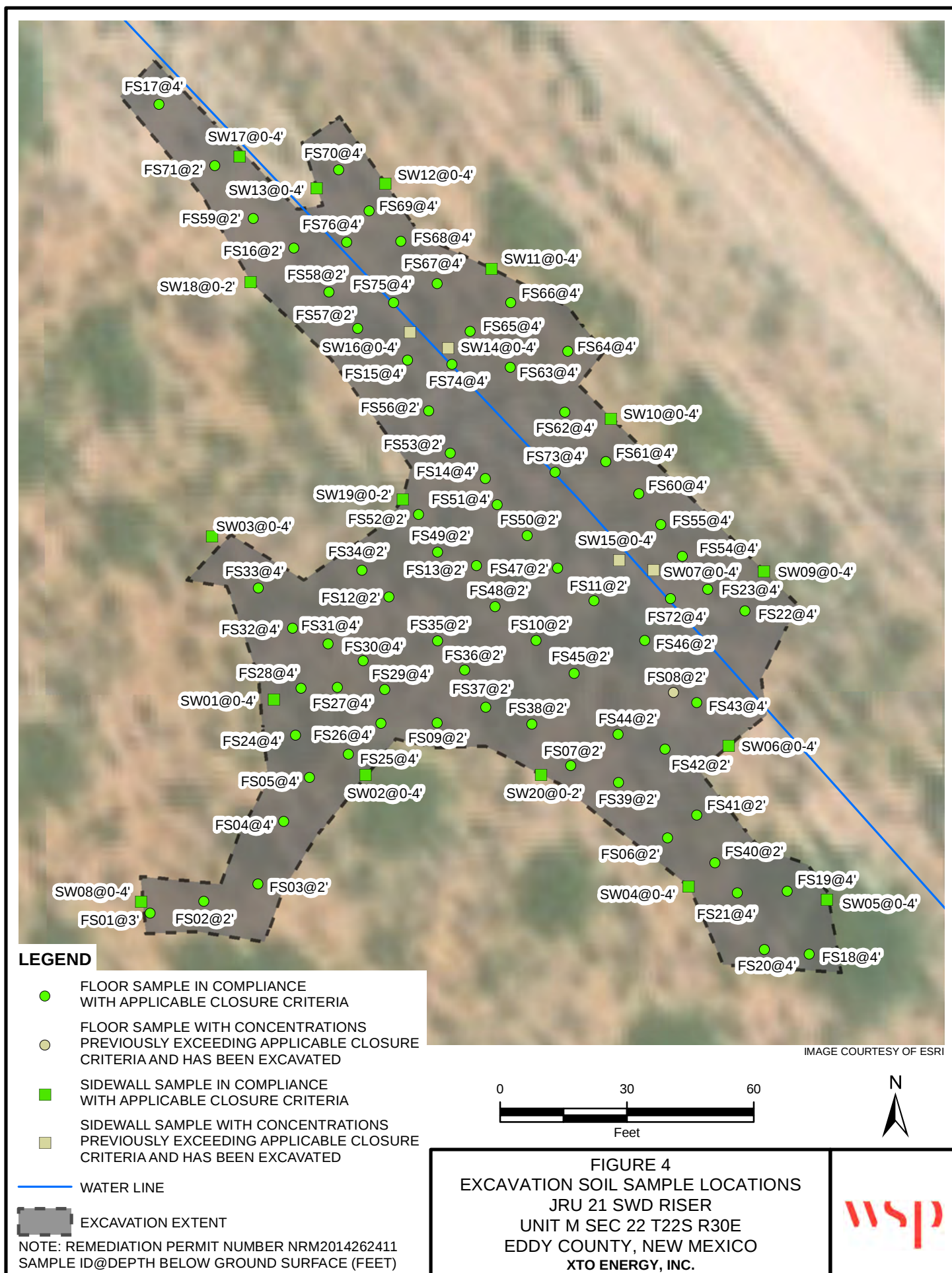


FIGURE 3
DELINEATION SOIL SAMPLE LOCATIONS
JRU 21 SWD RISER
UNIT M SEC 22 T22S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.





P:\XTO Energy\GIS\MXD\012920074_JRU 21 SWD RISER\012920074_FIG04_EXCAVATION_2021.mxd

TABLES

Table 1

Soil Analytical Results
James Ranch Unit 21 SWD Riser
Incident Number : NRM2014262411
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	05/14/2020	0.5	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	11.9*
SS02	05/14/2020	0.5	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	3,620*
SS03	05/14/2020	0.5	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	6,470*
SS04	05/14/2020	0.5	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	6,540*
SS05	05/14/2020	0.5	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	4,930*
SS06	05/14/2020	0.5	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	5,710*
SS07	05/14/2020	0.5	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	8,560*
SS08	05/14/2020	0.5	<0.00201	<0.00201	<50.1	<50.1	<50.1	<50.1	<50.1	4,810*
SS09	05/14/2020	0.5	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	93.5*
SS10	05/14/2020	0.5	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	4,950*
SS11	05/14/2020	0.5	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	12.6*
SS12	05/14/2020	0.5	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	11.3*
SS13	05/14/2020	0.5	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	8,430*
SS14	05/14/2020	0.5	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	4,310*
SS15	05/14/2020	0.5	<0.00201	<0.00201	<50.2	<50.2	<50.2	<50.2	<50.2	4,470*
Delineation Samples										
BH01	11/10/2020	4	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	4,440
BH01A	11/10/2020	8	<0.00199	<0.00199	<50.1	<50.1	<50.1	<50.1	<50.1	284
BH02	11/10/2020	2	<0.00201	<0.00201	<50.1	<50.1	<50.1	<50.1	<50.1	<9.92*
BH03	11/10/2020	2	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	<9.94*
BH04	11/10/2020	2.5	<0.00201	<0.00201	<50.3	<50.3	<50.3	<50.3	<50.3	4,210*
BH05	11/10/2020	2.5	<0.00202	<0.00202	<49.9	<49.9	<49.9	<49.9	<49.9	14.2*

Table 1

Soil Analytical Results
James Ranch Unit 21 SWD Riser
Incident Number : NRM2014262411
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
BH06	11/10/2020	1	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	68*
BH06A	11/10/2020	2	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	11.1*
BH07	11/10/2020	2	<0.00199	<0.00199	<50.2	<50.2	<50.2	<50.2	<50.2	121*
BH08	11/10/2020	2	<0.00202	<0.00202	<50.3	<50.3	<50.3	<50.3	<50.3	<10.0*
BH09	11/10/2020	1	<0.00199	<0.00199	<50.1	<50.1	<50.1	<50.1	<50.1	4,600*
BH09A	11/10/2020	2	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	3,800*
BH10	11/10/2020	1	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	88.4*
BH10A	11/10/2020	2	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	48.1*
BH11	11/10/2020	2	<0.00198	<0.00198	<49.8	<49.8	<49.8	<49.8	<49.8	12.4*
BH12	11/10/2020	2	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	<9.98*
BH13	11/10/2020	1	<0.00202	<0.00202	<50.1	<50.1	<50.1	<50.1	<50.1	<9.94*
BH13A	11/10/2020	2	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	13.6*
BH14	11/10/2020	1	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	13.1*
BH14A	11/10/2020	2	<0.00198	<0.00198	<49.9	<49.9	<49.9	<49.9	<49.9	<10.0*
Excavation Floor Samples										
FS01	11/30/2020	3	<0.00198	<0.001980	<50.3	<50.3	<50.3	<50.30	<50.30	12.4*
FS02	12/21/2020	2	<0.00200	<0.00200	52.1	<50.1	<50.1	52.1	52.1	48.4*
FS03	11/30/2020	2	<0.00199	<0.001990	<49.8	<49.8	<49.8	<49.80	<49.80	58.9*

Table 1

Soil Analytical Results
James Ranch Unit 21 SWD Riser
Incident Number : NRM2014262411
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
FS04	12/21/2020	4	<0.00202	<0.00202	59.9	<50.2	<50.2	59.9	59.9	1,290
FS05	12/21/2020	4	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	1,290
FS06	12/02/2020	2	<0.00198	<0.001980	<49.8	<49.8	<49.8	<49.80	<49.80	13.4*
FS07	12/02/2020	2	<0.00198	<0.001980	<50.0	<50.0	<50.0	<50.00	<50.00	17.3*
FS08	12/21/2020	2	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	696*
FS09	12/03/2020	2	<0.00201	<0.002010	<50.0	<50.0	<50.0	<50.00	<50.00	10.7*
FS10	12/03/2020	2	<0.00200	<0.002000	<50.1	<50.1	<50.1	<50.10	<50.10	10.7*
FS11	12/03/2020	2	<0.00202	<0.002020	<50.0	<50.0	<50.0	<50.00	<50.00	28.4*
FS12	12/03/2020	2	<0.00505	<0.005050	<50.0	<50.0	<50.0	<50.00	<50.00	<9.96*
FS13	12/03/2020	2	<0.00200	<0.002000	<50.1	<50.1	<50.1	<50.10	<50.10	30.0*
FS14	01/13/2021	4	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	3,460
FS15	12/21/2020	4	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	1,030
FS16	12/21/2020	2	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	150*
FS17	12/07/2020	4	<0.00198	<0.001980	<49.8	<49.8	<49.8	<49.80	<49.80	10,800
FS18	12/07/2020	4	<0.00199	<0.001990	<50.2	<50.2	<50.2	<50.20	<50.20	2,050
FS19	12/07/2020	4	<0.00200	<0.002000	<50.1	<50.1	<50.1	<50.10	<50.10	4,700
FS20	12/07/2020	4	<0.00199	<0.001990	<50.0	<50.0	<50.0	<50.00	<50.00	3,360
FS21	12/07/2020	4	<0.00200	<0.002000	<50.2	<50.2	<50.2	<50.20	<50.20	3,440
FS22	12/07/2020	4	<0.00199	<0.001990	<50.1	<50.1	<50.1	<50.10	<50.10	989
FS23	12/07/2020	4	<0.00202	<0.002020	<50.2	<50.2	<50.2	<50.20	<50.20	1,180

Table 1

Soil Analytical Results
James Ranch Unit 21 SWD Riser
Incident Number : NRM2014262411
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
FS24	12/08/2020	4	<0.00199	<0.001990	<50.0	<50.0	<50.0	<50.00	<50.00	357
FS25	12/08/2020	4	<0.00200	<0.002000	<49.9	<49.9	<49.9	<49.90	<49.90	2,130
FS26	12/08/2020	4	<0.00202	<0.002020	<49.8	<49.8	<49.8	<49.80	<49.80	3,510
FS27	12/08/2020	4	<0.00198	<0.001980	<50.2	<50.2	<50.2	<50.20	<50.20	8,630
FS28	12/08/2020	4	<0.00200	<0.002000	<49.8	<49.8	<49.8	<49.80	<49.80	5,480
FS29	12/08/2020	4	<0.00202	<0.002020	<50.1	<50.1	<50.1	<50.10	<50.10	1,700
FS30	12/08/2020	4	<0.00199	<0.001990	<49.9	<49.9	<49.9	<49.90	<49.90	7,190
FS31	12/08/2020	4	<0.00201	<0.002010	<49.9	<49.9	<49.9	<49.90	<49.90	4,570
FS32	12/08/2020	4	<0.00200	<0.002000	<50.1	<50.1	<50.1	<50.10	<50.10	4,170
FS33	12/08/2020	4	<0.00200	<0.002000	<50.1	<50.1	<50.1	<50.10	<50.10	4,500
FS34	12/08/2020	2	<0.00200	<0.002000	<49.8	<49.8	<49.8	<49.80	<49.80	19.3*
FS35	12/08/2020	2	<0.00201	<0.002010	<50.2	<50.2	<50.2	<50.20	<50.20	21.5*
FS36	12/08/2020	2	<0.00201	<0.002010	<50.3	<50.3	<50.3	<50.30	<50.30	35.7*
FS37	12/08/2020	2	<0.00198	<0.001980	<50.1	<50.1	<50.1	<50.10	<50.10	76.6*
FS38	12/08/2020	2	<0.00202	<0.002020	<49.9	<49.9	<49.9	<49.90	<49.90	13.4*
FS39	12/08/2020	2	<0.00202	<0.002020	<50.0	<50.0	<50.0	<50.00	<50.00	28.7*
FS40	12/08/2020	2	<0.00200	<0.002000	<50.0	<50.0	<50.0	<50.00	<50.00	22.1*
FS41	12/08/2020	2	<0.00200	<0.002000	<50.0	<50.0	<50.0	<50.00	<50.00	172*
FS42	12/08/2020	2	<0.00198	<0.001980	<49.8	<49.8	<49.8	<49.80	<49.80	190*
FS43	12/08/2020	4	<0.00199	<0.001990	<50.1	<50.1	<50.1	<50.10	<50.10	954
FS44	12/08/2020	2	<0.00199	<0.001990	<50.0	<50.0	<50.0	<50.00	<50.00	<9.90*

Table 1

Soil Analytical Results
James Ranch Unit 21 SWD Riser
Incident Number : NRM2014262411
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
FS45	12/08/2020	2	<0.00201	<0.002010	<49.9	<49.9	<49.9	<49.90	<49.90	162*
FS46	12/08/2020	2	<0.00200	<0.002000	<50.1	<50.1	<50.1	<50.10	<50.10	276*
FS47	12/08/2020	2	<0.00199	<0.001990	<49.9	<49.9	<49.9	<49.90	<49.90	12.2*
FS48	12/08/2020	2	<0.00200	<0.002000	<49.8	<49.8	<49.8	<49.80	<49.80	64.0*
FS49	12/08/2020	2	<0.00202	<0.002020	<50.1	<50.1	<50.1	<50.10	<50.10	68.6*
FS50	12/08/2020	2	<0.00198	<0.001980	<49.8	<49.8	<49.8	<49.80	<49.80	52.3*
FS51	12/08/2020	4	<0.00202	<0.002020	<50.2	<50.2	<50.2	<50.20	<50.20	5,790
FS52	12/08/2020	2	<0.00201	<0.002010	<50.0	<50.0	<50.0	<50.00	<50.00	27.1*
FS53	12/08/2020	2	<0.00198	<0.001980	<49.9	<49.9	<49.9	<49.90	<49.90	25.4*
FS54	12/09/2020	4	<0.00200	<0.002000	<50.0	<50.0	<50.0	<50.00	<50.00	402
FS55	12/09/2020	4	<0.00202	<0.002020	<49.8	<49.8	<49.8	<49.80	<49.80	517
FS56	12/09/2020	2	<0.00202	<0.002020	<50.2	<50.2	<50.2	<50.20	<50.20	130*
FS57	12/09/2020	2	<0.00199	<0.001990	<50.1	<50.1	<50.1	<50.10	<50.10	111*
FS58	12/09/2020	2	<0.00200	<0.002000	<50.1	<50.1	<50.1	<50.10	<50.10	140*
FS59	12/09/2020	2	<0.00202	<0.002020	<50.2	<50.2	<50.2	<50.20	<50.20	18.5*
FS60	12/09/2020	4	<0.00198	<0.001980	<50.0	<50.0	<50.0	<50.00	<50.00	2,290
FS61	12/09/2020	4	<0.00200	<0.002000	<49.9	<49.9	<49.9	<49.90	<49.90	1,950
FS62	12/09/2020	4	<0.00199	<0.001990	<50.2	<50.2	<50.2	<50.20	<50.20	3,170
FS63	12/09/2020	4	<0.00200	<0.002000	<50.3	<50.3	<50.3	<50.30	<50.30	3,570

Table 1

Soil Analytical Results
James Ranch Unit 21 SWD Riser
Incident Number : NRM2014262411
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
FS64	12/09/2020	4	<0.00198	<0.001980	<50.1	<50.1	<50.1	<50.10	<50.10	398
FS65	12/10/2020	4	<0.00200	<0.002000	<50.0	<50.0	<50.0	<50.00	<50.00	3,490
FS66	12/10/2020	4	<0.00198	<0.001980	<50.0	<50.0	<50.0	<50.00	<50.00	4,860
FS67	12/10/2020	4	<0.00200	<0.002000	<49.9	<49.9	<49.9	<49.90	<49.90	5,190
FS68	12/10/2020	4	<0.00199	<0.001990	<49.9	<49.9	<49.9	<49.90	<49.90	4,490
FS69	12/10/2020	4	<0.00200	<0.002000	<50.1	<50.1	<50.1	<50.10	<50.10	4,650
FS70	12/10/2020	4	<0.00202	<0.002020	<50.0	<50.0	<50.0	<50.00	<50.00	3,040
FS71	12/10/2020	2	<0.00199	<0.001990	<49.8	<49.8	<49.8	<49.80	<49.80	19.4*
FS72	12/29/2020	4	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	<50.2	3,720
FS73	12/29/2020	4	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	3,300
FS74	12/29/2020	4	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	<49.8	2,060
FS75	12/29/2020	4	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	3,660
FS76	12/29/2020	4	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	3,090
Excavation Sidewall Samples										
SW01	12/01/2020	0 - 4	<0.00202	<0.002020	<49.9	<49.9	<49.9	<49.90	<49.90	384*
SW02	12/01/2020	0 - 4	<0.00198	<0.001980	<50.0	<50.0	<50.0	<50.00	<50.00	18.2*
SW03	12/01/2020	0 - 4	<0.00198	<0.001980	<49.8	<49.8	<49.8	<49.80	<49.80	<9.98*
SW04	12/02/2020	0 - 4	<0.00198	<0.001980	<49.9	<49.9	<49.9	<49.90	<49.90	150*
SW05	12/02/2020	0 - 4	<0.00199	<0.001990	<50.1	<50.1	<50.1	<50.10	<50.10	<10.0*
SW06	12/02/2020	0 - 4	<0.00199	<0.001990	<49.9	<49.9	<49.9	<49.90	<49.90	27.3*

Table 1

Soil Analytical Results
James Ranch Unit 21 SWD Riser
Incident Number : NRM2014262411
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
SW07	12/07/2020	0 - 4	<0.00202	<0.002020	<50.3	<50.3	<50.3	<50.30	<50.30	1,650*
SW08	12/09/2020	0 - 4	<0.00202	<0.002020	<50.1	<50.1	<50.1	<50.10	<50.10	247*
SW09	12/09/2020	0 - 4	<0.00202	<0.002020	<49.8	<49.8	<49.8	<49.80	<49.80	310*
SW10	12/09/2020	0 - 4	<0.00199	<0.001990	<50.2	<50.2	<50.2	<50.20	<50.20	66.1*
SW11	12/10/2020	0 - 4	<0.00202	<0.002020	<50.0	<50.0	<50.0	<50.00	<50.00	122*
SW12	12/10/2020	0 - 4	<0.00202	<0.002020	<49.9	<49.9	<49.9	<49.90	<49.90	134*
SW13	12/10/2020	0 - 4	<0.00199	<0.001990	<50.0	<50.0	<50.0	<50.00	<50.00	137*
SW14	12/10/2020	0 - 4	<0.00200	<0.002000	<50.1	<50.1	<50.1	<50.10	<50.10	3,570*
SW15	12/10/2020	0 - 4	<0.00202	<0.002020	<49.9	<49.9	<49.9	<49.90	<49.90	2,450*
SW16	12/10/2020	0 - 4	<0.00200	<0.002000	<49.8	<49.8	<49.8	<49.80	<49.80	3,040*
SW17	12/10/2020	0 - 4	<0.00198	<0.001980	<50.0	<50.0	<50.0	<50.00	<50.00	31.0*
SW18	12/10/2020	0 - 2	<0.00200	<0.002000	<50.3	<50.3	<50.3	<50.30	<50.30	29.4*
SW19	12/10/2020	0 - 2	<0.00198	<0.001980	<49.9	<49.9	<49.9	<49.90	<49.90	30.4*
SW20	12/10/2020	0 - 2	<0.00200	<0.002000	<50.0	<50.0	<50.0	<50.00	<50.00	22.8*

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

* 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

Text

impacted soil was removed

ATTACHMENT 1: REFERENCED WELL RECORD



New Mexico Office of the State Engineer

Water Right Summary

WR File Number: C 03015 **Subbasin:** CUB **Cross Reference:** -
Primary Purpose: MON MONITORING WELL
Primary Status: PMT PERMIT
Total Acres: **Subfile:** - **Header:** -
Total Diversion: 0 **Cause/Case:** -
Owner: U.S. DEPT OF ENERGY - WIPP
Contact: HAROLD JOHNSON

Documents on File

Trn #	Doc	File/Act	Status		Transaction Desc.	From/		Acres	Diversion	Consumptive
			1	2		To				
288525	EXPL	2003-11-25	PMT	LOG	C 03015 MONITORING WELL	T		0	0	

Current Points of Diversion

(NAD83 UTM in meters)											
POD Number	Well Tag	Source	Q					X	Y	Other Location Desc	
			64	Q16	Q4	Sec	Tws				Rng
C 03015		Artesian	1	4	3	22	22S	30E	606099	3582353*	

An () after northing value indicates UTM location was derived from PLSS - see Help

Source

Acres	Diversion	CU	Use	Priority	Source Description
0	0		MON		GW

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2/3/21 9:56 AM

WATER RIGHT SUMMARY



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USGS Water Resources

Data Category:Groundwater

Geographic Area:United States

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Groundwater levels for the Nation

Search Results -- 1 sites found

Agency code = usgs
site_no list =

- 322215103502701

Minimum number of levels = 1
[Save file of selected sites](#) to local disk for future upload

USGS 322215103502701 22S.30E.24.3334 P-14

Eddy County, New Mexico
Latitude 32°22'15", Longitude 103°50'27" NAD27
Land-surface elevation 3,360 feet above NGVD29

Output formats

Table of data

Tab-separated data

Graph of data

Reselect period

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source measurement
1977-02-24			D	72019	419				Z	USGS

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	72019	Depth to water level, feet below land surface
Status		The reported water-level measurement represents a static level
Method of measurement	Z	Other.
Measuring agency	USGS	U.S. Geological Survey
Source of measurement	S	Measured by personnel of reporting agency.
Water-level approval status	A	Approved for publication -- Processing and review completed.

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Geographic Area:

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- 322215103502701

Minimum number of levels = 1

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USGS 322215103502701 22S.30E.24.3334 P-14

Available data for this site

Groundwater: Field measurements

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°22'15", Longitude 103°50'27" NAD27

Land-surface elevation 3,360 feet above NGVD29

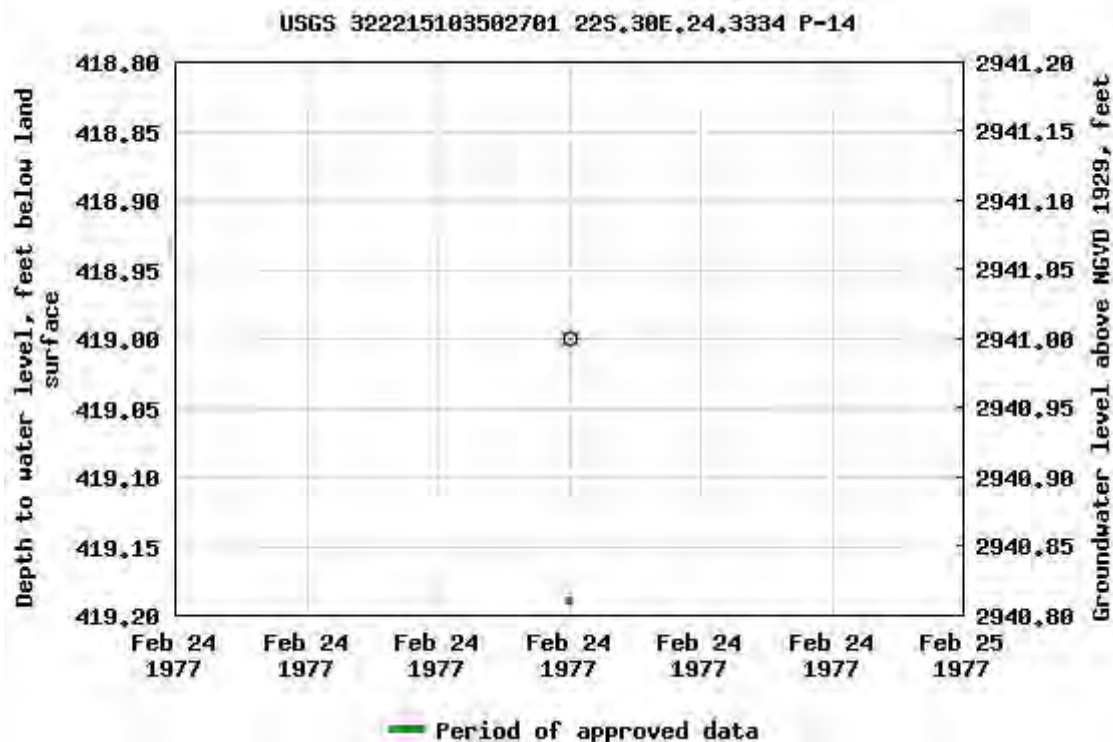
Output formats

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Breaks in the plot represent a gap of at least one year between field measurements.

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Title: Groundwater for USA: Water Levels

URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>



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Page Last Modified: 2021-02-03 11:58:42 EST

0.69 0.62 nadww01



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Data Category: Groundwater Geographic Area: United States GO

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Search Results -- 1 sites found

Agency code = usgs
site_no list =

- 322252103541401

Minimum number of levels = 1
[Save file of selected sites](#) to local disk for future upload

USGS 322252103541401 22S.30E.20.12310

Eddy County, New Mexico
Latitude 32°22'52", Longitude 103°54'14" NAD27
Land-surface elevation 3,065 feet above NAVD88
The depth of the well is 129 feet below land surface.
This well is completed in the Rustler Formation (312RSLR) local aquifer.

Output formats

Table of data
Tab-separated data
Graph of data
Reselect period

Date	Time	? Water-level date-time accuracy	? Parameter code	Water level, feet below land surface	Water level, feet above specific vertical datum	Referenced vertical datum	? Status	? Method of measurement	? Measuring agency	? Source measurement
1952-02-26			D	72019	81.94					U
1959-02-19			D	72019	72.96					U

Explanation

Section	Code	Description
Water-level date-time accuracy	D	Date is accurate to the Day
Parameter code	72019	Depth to water level, feet below land surface
Status		The reported water-level measurement represents a static level
Method of measurement	U	Unknown method.
Measuring agency		Not determined
Source of measurement	U	Source is unknown.
Water-level approval status	A	Approved for publication -- Processing and review completed.

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USGS Water Resources

Data Category:

Groundwater

Geographic Area:

United States

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site_no list =

- 322252103541401

Minimum number of levels = 1

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USGS 322252103541401 22S.30E.20.12310

Available data for this site

Groundwater: Field measurements

GO

Eddy County, New Mexico

Hydrologic Unit Code 13060011

Latitude 32°22'52", Longitude 103°54'14" NAD27

Land-surface elevation 3,065 feet above NAVD88

The depth of the well is 129 feet below land surface.

This well is completed in the Rustler Formation (312RSLR) local aquifer.

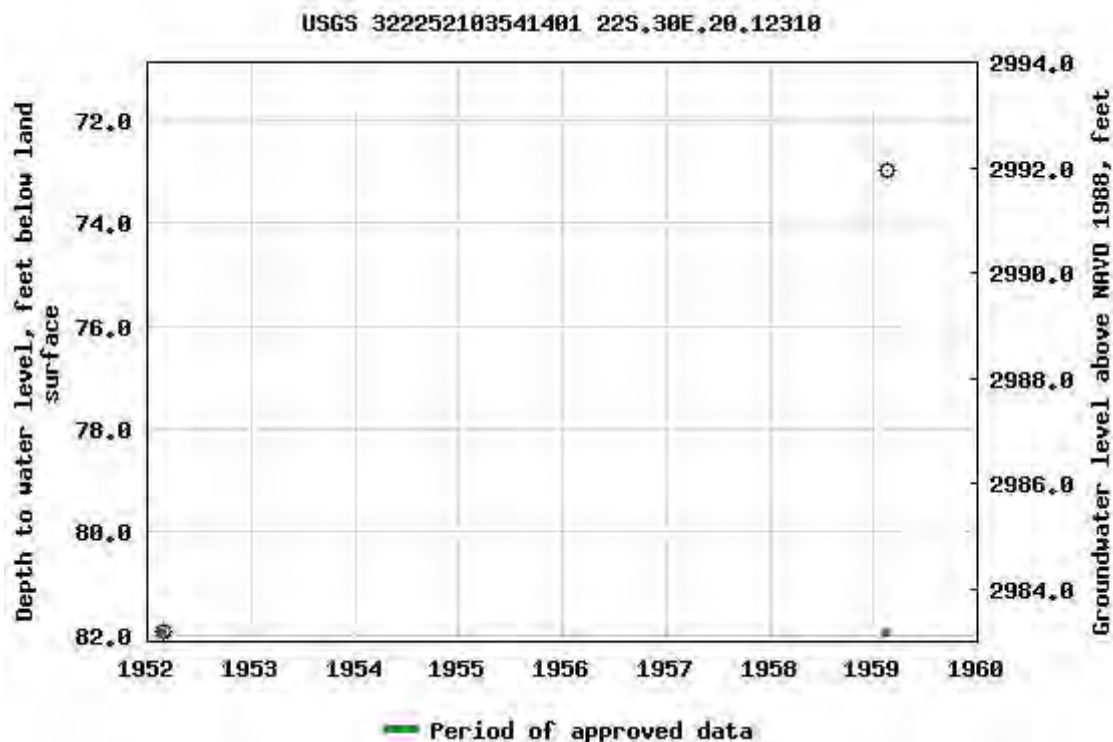
Output formats

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Breaks in the plot represent a gap of at least one year between field measurements.

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Title: Groundwater for USA: Water Levels

URL: <https://nwis.waterdata.usgs.gov/nwis/gwlevels?>

Page Contact Information: [USGS Water Data Support Team](#)

Page Last Modified: 2021-02-03 12:05:24 EST

0.7 0.61 nadww01





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	Tw	Rng	X	Y
C	03015	1	4	3	22	22S	30E	606099	3582353* 
x									
Driller License:		331		Driller Company:		SBQ2, LLC DBA STEWART BROTHERS DRILLING CO.			
Driller Name:									
Drill Start Date:		01/21/2004		Drill Finish Date:		01/25/2004		Plug Date:	
Log File Date:		03/04/2004		PCW Rev Date:				Source: Artesian	
Pump Type:				Pipe Discharge Size:				Estimated Yield:	
Casing Size:		6.00		Depth Well:		1316 feet		Depth Water: 262 feet	
x									
Water Bearing Stratifications:				Top	Bottom	Description			
				362	385	Other/Unknown			
x									
Casing Perforations:				Top	Bottom				
				261	386				
x									

*UTM location was derived from PLSS - see Help

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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	Tws	Rng	X	Y
C	03679 POD1	1	4	2	14	24S	33E	603567	3581547

x

Driller License: 1654 **Driller Company:** NOT WORKING FOR HIRE--SIRMAN DRILLING AND CONSTRUC

Driller Name:

Drill Start Date: 10/23/2013 **Drill Finish Date:** 10/29/2013 **Plug Date:**

Log File Date: 11/07/2013 **PCW Rcv Date:** **Source:** Shallow

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

Casing Size: 6.00 **Depth Well:** 700 feet **Depth Water:** 575 feet

x

Water Bearing Stratifications:	Top	Bottom	Description
	565	665	Sandstone/Gravel/Conglomerate

x

Casing Perforations:	Top	Bottom
	560	620
	660	700

x

Meter Number:	16576	Meter Make:	MASTERMETER
Meter Serial Number:	8112524	Meter Multiplier:	100.0000
Number of Dials:	6	Meter Type:	Diversion
Unit of Measure:	Gallons	Return Flow Percent:	
Usage Multiplier:		Reading Frequency:	

x

Meter Readings (in Acre-Feet)

Read Date	Year	Mtr Reading	Flag	Rdr	Comment	Mtr Amount Online
03/01/2014	2014	29030	A	RPT		0
07/01/2014	2014	49261	A	RPT		6.209
10/01/2014	2014	68901	A	RPT		6.027
12/31/2014	2014	84036	A	RPT		4.645
02/01/2015	2015	89806	A	RPT		1.771
03/02/2015	2015	92350	A	RPT		0.781
04/01/2015	2015	96582	A	RPT		1.299
04/30/2015	2015	104711	A	RPT		2.495
05/31/2015	2015	111086	A	RPT		1.956
07/01/2015	2015	118700	A	RPT		2.337
08/01/2015	2015	123816	A	RPT		1.570
08/31/2015	2015	130025	A	RPT		1.905
10/01/2015	2015	135622	A	RPT		1.718

x

**YTD Meter Amounts:	Year	Amount
	2014	16.881
	2015	15.832

x



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USGS 322200103524801 22S.30E.29.2322 WIPP-26

Available data for this site

SUMMARY OF ALL AVAILABLE DATA ▼

GO

Well Site

DESCRIPTION:

Latitude 32°21'59", Longitude 103°53'57" NAD27
Eddy County, New Mexico , Hydrologic Unit 13060011
Well depth: not determined.
Land surface altitude: 3,124 feet above NGVD29.

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field/Lab water-quality samples	1980-03-18	1980-08-18	2
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](#)

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Title: NWIS Site Information for USA: Site Inventory

URL: https://nwis.waterdata.usgs.gov/nwis/inventory/?site_no=322200103524801&agency_cd=USGS



Page Contact Information: [New Mexico Water Data Support Team](#)

Page Last Modified: 2021-02-03 12:04:40 EST

0.26 0.25 nadww01

ATTACHMENT 2: LITHOLOGIC/SAMPLING LOG

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220		BH or PH Name:		Date:				
		BH01		11/10/2020				
		Site Name: JRU 21 SWD Riser						
		RP or Incident Number: NRM2014262411						
		LTE Job Number:						
LITHOLOGIC / SOIL SAMPLING LOG								
Lat/Long:		Field Screening:		Hole Diameter:				
		HACH chloride strips, PID		2.25"				
Total Depth: 8'								
Comments: Chloride screening results include a 60% error factor TD @ 8'								
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		0-10'
						1		SANDY clay, low plasticity, no cohesion, reddish brown-brown, m-f, moist, trace silt, poorly graded, no odor, no stain
M	5,051	0.0	N		2	2		
						3		
M	4,780	0.0	N	BH01	4	4		
						5	SP-SC	
M	4,377	0.4	N		5	5		
						6		
M	1,542	0.6	N		6	6		
						7		
						8		
M	224	0.6	N	BH01A	8	8		
TD @ 8'								
						9		
						10		
						11		
						12		

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220						BH or PH Name:		Date:			
						BH02		11/10/2020			
						Site Name: JRU 21 SWD Riser					
						RP or Incident Number: NRM2014262411					
						LTE Job Number:					
LITHOLOGIC / SOIL SAMPLING LOG						Logged By		SL EL		Method: Hand Auger	
Lat/Long:				Field Screening:		Hole Diameter:		Total Depth:			
				HACH chloride strips, PID		2.25"		2'			
Comments: Chloride screening results include a 60% error factor TD @ 2'											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
						0		0-2 SANDY clay, low plasticity, no cohesion, reddish brown-brown, m-f, dry, trace silt, poorly graded, no odor, no stain			
						1	SP-SC				
D	<186	0.0	N	BH02	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:		Date:			
						BH03		11/10/2020			
						Site Name: JRU 21 SWD Riser					
						RP or Incident Number: NRM2014262411					
						LTE Job Number:					
LITHOLOGIC / SOIL SAMPLING LOG						Logged By		SL EL		Method: Hand Auger	
Lat/Long:				Field Screening: HACH chloride strips, PID				Hole Diameter: 2.25"		Total Depth: 2'	
Comments: Chloride screening results include a 60% error factor TD @ 2'											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
						0		0-2 SANDY clay, low plasticity, no cohesion, reddish brown-brown, m-f, dry, trace silt, poorly graded, no odor, no stain			
						1	SP-SC				
D	<186	1.7	N	BH03	2	2		TD @ 2'			
						12					

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220						BH or PH Name:		Date:			
						BH04		11/10/2020			
						Site Name: JRU 21 SWD Riser					
						RP or Incident Number: NRM2014262411					
						LTE Job Number:					
LITHOLOGIC / SOIL SAMPLING LOG						Logged By		SL EL		Method: Hand Auger	
Lat/Long:				Field Screening: HACH chloride strips, PID				Hole Diameter: 2.25"		Total Depth: 2.5'	
Comments: Chloride screening results include a 60% error factor TD @ 2.5' - Auger refusal											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
						0		0-2.5 SANDY clay, low plasticity, no cohesion, reddish brown-brown, m-f, moist, trace silt, poorly graded, no odor, no stain, trace caliche			
						1	SP-SC				
						2					
M	4,378	0.1	N	BH04	2.5						
						3		TD @ 2.5' - Auger refusal			
						4					
						5					
						6					
						7					
						8					
						9					
						10					
						11					
						12					

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220						BH or PH Name:		Date:			
						BH05		11/10/2020			
						Site Name: JRU 21 SWD Riser					
						RP or Incident Number: NRM2014262411					
						LTE Job Number:					
LITHOLOGIC / SOIL SAMPLING LOG						Logged By		SL EL		Method: Hand Auger	
Lat/Long:				Field Screening: HACH chloride strips, PID				Hole Diameter: 2.25"		Total Depth: 2.5'	
Comments: Chloride screening results include a 60% error factor TD @ 2.5'											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
						0		0-2.5 SANDY clay, low plasticity, no cohesion, reddish brown-brown, m-f, dry, trace silt, poorly graded, no odor, no stain, trace caliche			
						1	SP-SC				
						2					
D	<186	0.3	N	BH05	2.5						
						3		TD @ 2.5' - Auger			
						4					
						5					
						6					
						7					
						8					
						9					
						10					
						11					
						12					

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220						BH or PH Name:		Date:			
						BH06		11/10/2020			
						Site Name: JRU 21 SWD Riser					
						RP or Incident Number: NRM2014262411					
						LTE Job Number:					
LITHOLOGIC / SOIL SAMPLING LOG						Logged By		SL EL		Method: Hand Auger	
Lat/Long:				Field Screening: HACH chloride strips, PID				Hole Diameter: 2.25"		Total Depth: 2'	
Comments: Chloride screening results include a 60% error factor TD @ 2'											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
						0		0-2 SANDY clay, low plasticity, no cohesion, reddish brown-brown, m-f, dry, trace silt, poorly graded, no odor, no stain			
D	<186	0.8	N	BH06	1	1	SP-SC				
D	<186	0.5	N	BH06A	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:		Date:			
						BH07		11/10/2020			
						Site Name: JRU 21 SWD Riser					
						RP or Incident Number: NRM2014262411					
						LTE Job Number:					
LITHOLOGIC / SOIL SAMPLING LOG						Logged By		SL EL		Method: Hand Auger	
Lat/Long:				Field Screening: HACH chloride strips, PID				Hole Diameter: 2.25"		Total Depth: 2'	
Comments: Chloride screening results include a 60% error factor TD @ 2'											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
						0		0-2 SANDY clay, low plasticity, no cohesion, reddish brown-brown, m-f, dry, trace silt, poorly graded, no odor, no stain			
						1	SP-SC				
D	186	0.4	N	BH07	2	2		TD @ 2'			
						12					

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220						BH or PH Name:		Date:			
						BH08		11/10/2020			
						Site Name: JRU 21 SWD Riser					
						RP or Incident Number: NRM2014262411					
						LTE Job Number:					
LITHOLOGIC / SOIL SAMPLING LOG						Logged By		SL EL		Method: Hand Auger	
Lat/Long:				Field Screening:		Hole Diameter:		Total Depth:			
				HACH chloride strips, PID		2.25"		2'			
Comments: Chloride screening results include a 60% error factor TD @ 2'											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
						0		0-2 SANDY clay, low plasticity, no cohesion, reddish brown-brown, m-f, dry, trace silt, poorly graded, no odor, no stain			
						1	SP-SC				
D	<186	1.6	N	BH08	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:		Date:			
						BH09		11/10/2020			
						Site Name: JRU 21 SWD Riser					
						RP or Incident Number: NRM2014262411					
						LTE Job Number:					
LITHOLOGIC / SOIL SAMPLING LOG						Logged By		SL EL		Method: Hand Auger	
Lat/Long:				Field Screening: HACH chloride strips, PID				Hole Diameter: 2.25"		Total Depth: 2'	
Comments: Chloride screening results include a 60% error factor TD @ 2' - Auger Refusal											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
						0		0-2			
D	4,780	0.5	N	BH09	1	1	SP-SC	SANDY clay, low plasticity, no cohesion, reddish brown-brown, m-f, dry, trace silt, poorly graded, no odor, no stain, trace caliche			
M	4,377	0.5	N	BH09A	2	2		- 2' - caliche			
								TD @ 2' - Auger Refusal			
						3					
						4					
						5					
						6					
						7					
						8					
						9					
						10					
						11					
						12					

 WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220						BH or PH Name:		Date:			
						BH10		11/10/2020			
						Site Name: JRU 21 SWD Riser					
						RP or Incident Number: NRM2014262411					
						LTE Job Number:					
LITHOLOGIC / SOIL SAMPLING LOG						Logged By		SL EL		Method: Hand Auger	
Lat/Long:				Field Screening: HACH chloride strips, PID				Hole Diameter: 2.25"		Total Depth: 2'	
Comments: Chloride screening results include a 60% error factor TD @ 2'											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
						0		0-2 SANDY clay, low plasticity, no cohesion, reddish brown-brown, m-f, dry, trace silt, poorly graded, no odor, no stain, trace caliche			
D	<186	0.4	N	BH10	1	1	SP-SC				
D	<186	0.5	N	BH10A	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:		Date:			
						BH11		11/10/2020			
						Site Name: JRU 21 SWD Riser					
						RP or Incident Number: NRM2014262411					
						LTE Job Number:					
LITHOLOGIC / SOIL SAMPLING LOG								Logged By	SL EL	Method:	Hand Auger
Lat/Long:				Field Screening:				Hole Diameter:		Total Depth:	
				HACH chloride strips, PID				2.25"		2'	
Comments: Chloride screening results include a 60% error factor TD @ 2'											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
						0		0-2 SANDY clay, low plasticity, no cohesion, reddish brown-brown, m-f, dry, trace silt, poorly graded, no odor, no stain, trace caliche			
						1	SP-SC				
D	<186	1.0	N	BH11	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:		Date:			
						BH12		11/10/2020			
						Site Name: JRU 21 SWD Riser					
						RP or Incident Number: NRM2014262411					
LTE Job Number:											
LITHOLOGIC / SOIL SAMPLING LOG						Logged By		SL EL		Method: Hand Auger	
Lat/Long:				Field Screening:		Hole Diameter:		Total Depth:			
				HACH chloride strips, PID		2.25"		2'			
Comments: Chloride screening results include a 60% error factor TD @ 2'											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
						0		0-2 SANDY clay, low plasticity, no cohesion, reddish brown-brown, m-f, dry, trace silt, poorly graded, no odor, no stain, trace caliche			
						1	SP-SC				
D	<186	0.5	N	BH12	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:		Date:			
						BH13		11/10/2020			
						Site Name: JRU 21 SWD Riser					
						RP or Incident Number: NRM2014262411					
						LTE Job Number:					
LITHOLOGIC / SOIL SAMPLING LOG								Logged By	SL EL	Method:	Hand Auger
Lat/Long:				Field Screening:				Hole Diameter:		Total Depth:	
				HACH chloride strips, PID				2.25"		2'	
Comments: Chloride screening results include a 60% error factor TD @ 2'											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
						0		0-2 SANDY clay, low plasticity, no cohesion, reddish brown-brown, m-f, dry, trace silt, poorly graded, no odor, no stain			
D	<186	0.5	N	BH13	1	1	SP-SC				
D	<186	0.6	N	BH13A	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:		Date:			
						BH14		11/10/2020			
						Site Name: JRU 21 SWD Riser					
						RP or Incident Number: NRM2014262411					
						LTE Job Number:					
LITHOLOGIC / SOIL SAMPLING LOG						Logged By		SL EL		Method: Hand Auger	
Lat/Long:				Field Screening: HACH chloride strips, PID				Hole Diameter: 2.25"		Total Depth: 2'	
Comments: Chloride screening results include a 60% error factor TD @ 2'											
Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks			
						0		0-2			
D	<186	0.5	N	BH14	1	1	SP-SC	SANDY clay, low plasticity, no cohesion, reddish brown-brown, m-f, dry, trace silt, poorly graded, no odor, no stain			
D	<186	0.3	N	BH14A	2	2					
								TD @ 2'			
						3					
						4					
						5					
						6					
						7					
						8					
						9					
						10					
						11					
						12					

ATTACHMENT 3: PHOTOGRAPHIC LOG



PHOTOGRAPHIC LOG

XTO Energy, Inc.	James Ranch Unit 21 SWD Riser Eddy County, New Mexico	NRM2014262411
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Photo No.	Date	
1	May 14, 2020	
View of pipeline that leaked facing northwest.		 A photograph showing a large, dark, horizontal pipeline running across a dry, reddish-brown landscape. The pipeline is surrounded by orange safety fencing. In the background, there is a blue sky with scattered white clouds and some sparse green vegetation. A small piece of construction equipment is visible in the distance.

Photo No.	Date	
2	May 14, 2020	
View of dead and stressed vegetation in the right of way and pasture facing southeast.		 A photograph showing a dry, reddish-brown landscape with sparse, dead, and stressed vegetation. The ground is covered with dry grass and small shrubs. In the background, there is a blue sky with scattered white clouds and some utility poles.



PHOTOGRAPHIC LOG

XTO Energy, Inc.	James Ranch Unit 21 SWD Riser Eddy County, New Mexico	NRM2014262411
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Photo No.	Date	
3	December 7, 2020	
View of excavation southwest of pipeline in right of way		 A photograph showing a deep, rectangular excavation in dry, reddish-brown soil. In the background, a pipeline with several wellheads is visible. A yellow excavator is positioned near the pipeline. The sky is clear and blue.

Photo No.	Date	
4	December 7, 2020	
View of excavation southwest of pipeline in right of way and into the pasture.		 A photograph showing a wide, shallow excavation in dry, reddish-brown soil. The excavation reveals a lighter-colored, possibly gravelly or sandy layer beneath the surface. The background shows a flat landscape with some sparse vegetation and utility poles under a clear blue sky.

ATTACHMENT 4: LABORATORY ANALYTICAL RESULTS



Certificate of Analysis Summary 661684

LT Environmental, Inc., Arvada, CO

Project Name: JRU 21 SWD Riser

Project Id: 012920074

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu 05.14.2020 16:32

Report Date: 05.18.2020 13:44

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	661684-001	661684-002	661684-003	661684-004	661684-005	661684-006
	<i>Field Id:</i>	SS01	SS02	SS03	SS04	SS05	SS06
	<i>Depth:</i>	0.5- ft	0.5- ft	0.5- ft	0.5- ft	0.5- ft	0.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	05.14.2020 11:10	05.14.2020 11:25	05.14.2020 11:40	05.14.2020 11:55	05.14.2020 12:10	05.14.2020 12:25
BTEX by EPA 8021B	<i>Extracted:</i>	05.14.2020 17:00	05.14.2020 17:00	05.14.2020 17:00	05.14.2020 17:00	05.14.2020 17:00	05.14.2020 17:00
	<i>Analyzed:</i>	05.14.2020 20:43	05.14.2020 21:05	05.14.2020 21:26	05.14.2020 21:47	05.14.2020 22:09	05.14.2020 22:30
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200
Toluene		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200
Ethylbenzene		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200
m,p-Xylenes		<0.00402 0.00402	<0.00401 0.00401	<0.00401 0.00401	<0.00397 0.00397	<0.00402 0.00402	<0.00399 0.00399
o-Xylene		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200
Total Xylenes		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200
Total BTEX		<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	05.14.2020 17:43	05.14.2020 17:43	05.14.2020 17:43	05.14.2020 17:43	05.14.2020 17:43	05.15.2020 12:10
	<i>Analyzed:</i>	05.14.2020 22:10	05.14.2020 22:16	05.14.2020 22:22	05.14.2020 22:28	05.14.2020 22:34	05.15.2020 12:59
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		11.9 9.88	3620 99.6	6470 99.8	6540 99.8	4930 100	5710 99.0
TPH by SW8015 Mod	<i>Extracted:</i>	05.15.2020 17:30	05.15.2020 17:30	05.15.2020 17:30	05.15.2020 17:30	05.15.2020 17:30	05.15.2020 17:30
	<i>Analyzed:</i>	05.15.2020 22:48	05.15.2020 23:09	05.15.2020 23:30	05.15.2020 23:51	05.16.2020 00:11	05.16.2020 00:32
	<i>Units/RL:</i>	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	<49.8 49.8	<50.2 50.2	<49.8 49.8	<50.0 50.0	<50.2 50.2
Diesel Range Organics (DRO)		<49.9 49.9	<49.8 49.8	<50.2 50.2	<49.8 49.8	<50.0 50.0	<50.2 50.2
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<49.8 49.8	<50.2 50.2	<49.8 49.8	<50.0 50.0	<50.2 50.2
Total GRO-DRO		<49.9 49.9	<49.8 49.8	<50.2 50.2	<49.8 49.8	<50.0 50.0	<50.2 50.2
Total TPH		<49.9 49.9	<49.8 49.8	<50.2 50.2	<49.8 49.8	<50.0 50.0	<50.2 50.2

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

Jessica Kramer
Project Manager



Certificate of Analysis Summary 661684

LT Environmental, Inc., Arvada, CO

Project Name: JRU 21 SWD Riser

Project Id: 012920074

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu 05.14.2020 16:32

Report Date: 05.18.2020 13:44

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	661684-007	661684-008	661684-009	661684-010	661684-011	661684-012
	Field Id:	SS07	SS08	SS09	SS10	SS11	SS12
	Depth:	0.5- ft	0.5- ft	0.5- ft	0.5- ft	0.5- ft	0.5- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	05.14.2020 12:40	05.14.2020 12:55	05.14.2020 13:10	05.14.2020 13:25	05.14.2020 13:40	05.14.2020 13:55
BTEX by EPA 8021B	Extracted:	05.14.2020 17:00	05.14.2020 17:00	05.14.2020 17:00	05.14.2020 17:00	05.14.2020 17:00	05.14.2020 17:00
	Analyzed:	05.14.2020 22:52	05.14.2020 23:13	05.14.2020 23:34	05.15.2020 00:39	05.15.2020 01:00	05.15.2020 01:21
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00401 0.00401	<0.00402 0.00402	<0.00401 0.00401	<0.00402 0.00402	<0.00401 0.00401	<0.00401 0.00401
o-Xylene		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200
Chloride by EPA 300	Extracted:	05.15.2020 12:10	05.15.2020 12:10	05.15.2020 12:10	05.15.2020 12:10	05.15.2020 12:10	05.15.2020 12:10
	Analyzed:	05.15.2020 13:17	05.15.2020 13:23	05.15.2020 13:29	05.15.2020 13:35	05.15.2020 13:52	05.15.2020 13:58
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		8560 202	4810 100	93.5 10.0	4950 101	12.6 9.96	11.3 9.98
TPH by SW8015 Mod	Extracted:	05.15.2020 17:30	05.15.2020 17:30	05.15.2020 17:30	05.15.2020 17:30	05.15.2020 17:30	05.15.2020 17:30
	Analyzed:	05.16.2020 00:53	05.16.2020 01:33	05.16.2020 01:54	05.16.2020 02:14	05.16.2020 02:35	05.16.2020 02:55
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	<50.1 50.1	<49.8 49.8	<49.9 49.9	<49.8 49.8	<49.8 49.8
Diesel Range Organics (DRO)		<50.2 50.2	<50.1 50.1	<49.8 49.8	<49.9 49.9	<49.8 49.8	<49.8 49.8
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<50.1 50.1	<49.8 49.8	<49.9 49.9	<49.8 49.8	<49.8 49.8
Total GRO-DRO		<50.2 50.2	<50.1 50.1	<49.8 49.8	<49.9 49.9	<49.8 49.8	<49.8 49.8
Total TPH		<50.2 50.2	<50.1 50.1	<49.8 49.8	<49.9 49.9	<49.8 49.8	<49.8 49.8

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

Jessica Kramer
Project Manager



Certificate of Analysis Summary 661684

LT Environmental, Inc., Arvada, CO

Project Name: JRU 21 SWD Riser

Project Id: 012920074

Contact: Dan Moir

Project Location:

Date Received in Lab: Thu 05.14.2020 16:32

Report Date: 05.18.2020 13:44

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	661684-013	661684-014	661684-015			
	Field Id:	SS13	SS14	SS15			
	Depth:	0.5- ft	0.5- ft	0.5- ft			
	Matrix:	SOIL	SOIL	SOIL			
	Sampled:	05.14.2020 14:10	05.14.2020 14:25	05.14.2020 14:40			
BTEX by EPA 8021B	Extracted:	05.14.2020 17:00	05.14.2020 17:00	05.14.2020 17:00			
	Analyzed:	05.15.2020 01:43	05.15.2020 02:04	05.15.2020 02:26			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201			
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201			
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201			
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201			
m,p-Xylenes		<0.00399 0.00399	<0.00400 0.00400	<0.00402 0.00402			
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201			
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201			
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201			
Chloride by EPA 300	Extracted:	05.15.2020 12:10	05.15.2020 12:10	05.15.2020 12:10			
	Analyzed:	05.15.2020 14:04	05.15.2020 14:10	05.15.2020 14:16			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
		8430 101	4310 99.8	4470 101			
Chloride							
TPH by SW8015 Mod	Extracted:	05.15.2020 17:30	05.15.2020 17:30	05.15.2020 17:30			
	Analyzed:	05.16.2020 03:16	05.16.2020 03:36	05.16.2020 03:57			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
		<50.0 50.0	<50.2 50.2	<50.2 50.2			
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<50.2 50.2	<50.2 50.2			
Diesel Range Organics (DRO)		<50.0 50.0	<50.2 50.2	<50.2 50.2			
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.2 50.2	<50.2 50.2			
Total GRO-DRO		<50.0 50.0	<50.2 50.2	<50.2 50.2			
Total TPH		<50.0 50.0	<50.2 50.2	<50.2 50.2			

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

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

Jessica Kramer
Project Manager



Analytical Report 661684

for

LT Environmental, Inc.

Project Manager: Dan Moir

JRU 21 SWD Riser

012920074

05.18.2020

Collected By: Client

**1089 N Canal Street
Carlsbad, NM 88220**

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-32), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (19-037-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (TX104704295-19-23), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-19-16)
Xenco-Lubbock (EPA Lab Code: TX00139): Texas (T104704219-20-22)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-19)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-19-5)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



05.18.2020

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: XENCO Report No(s): **661684**

JRU 21 SWD Riser

Project Address:

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the XENCO Report Number(s) 661684. All results being reported under this Report Number apply to the samples analyzed and properly identified with a Laboratory ID number. Subcontracted analyses are identified in this report with either the NELAC certification number of the subcontract lab in the analyst ID field, or the complete subcontracted report attached to this report.

Unless otherwise noted in a Case Narrative, all data reported in this Analytical Report are in compliance with NELAC standards. The uncertainty of measurement associated with the results of analysis reported is available upon request. Should insufficient sample be provided to the laboratory to meet the method and NELAC Matrix Duplicate and Matrix Spike requirements, then the data will be analyzed, evaluated and reported using all other available quality control measures.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by XENCO Laboratories. This report will be filed for at least 5 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in Report No. 661684 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

A handwritten signature in black ink that reads 'Jessica Kramer'. The signature is written in a cursive, flowing style.

Jessica Kramer

Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 661684****LT Environmental, Inc., Arvada, CO**

JRU 21 SWD Riser

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SS01	S	05.14.2020 11:10	0.5 ft	661684-001
SS02	S	05.14.2020 11:25	0.5 ft	661684-002
SS03	S	05.14.2020 11:40	0.5 ft	661684-003
SS04	S	05.14.2020 11:55	0.5 ft	661684-004
SS05	S	05.14.2020 12:10	0.5 ft	661684-005
SS06	S	05.14.2020 12:25	0.5 ft	661684-006
SS07	S	05.14.2020 12:40	0.5 ft	661684-007
SS08	S	05.14.2020 12:55	0.5 ft	661684-008
SS09	S	05.14.2020 13:10	0.5 ft	661684-009
SS10	S	05.14.2020 13:25	0.5 ft	661684-010
SS11	S	05.14.2020 13:40	0.5 ft	661684-011
SS12	S	05.14.2020 13:55	0.5 ft	661684-012
SS13	S	05.14.2020 14:10	0.5 ft	661684-013
SS14	S	05.14.2020 14:25	0.5 ft	661684-014
SS15	S	05.14.2020 14:40	0.5 ft	661684-015



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *JRU 21 SWD Riser*

Project ID: 012920074
Work Order Number(s): 661684

Report Date: 05.18.2020
Date Received: 05.14.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 661684

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SS01** Matrix: Soil Date Received: 05.14.2020 16:32
 Lab Sample Id: 661684-001 Date Collected: 05.14.2020 11:10 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.14.2020 17:43 Basis: Wet Weight
 Seq Number: 3126031

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.9	9.88	mg/kg	05.14.2020 22:10		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.15.2020 17:30 Basis: Wet Weight
 Seq Number: 3126202

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.15.2020 22:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.15.2020 22:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.15.2020 22:48	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	05.15.2020 22:48	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.15.2020 22:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	05.15.2020 22:48	
o-Terphenyl	84-15-1	107	%	70-135	05.15.2020 22:48	



Certificate of Analytical Results 661684

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SS01**
Lab Sample Id: 661684-001

Matrix: Soil
Date Collected: 05.14.2020 11:10

Date Received: 05.14.2020 16:32
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.14.2020 17:00

Basis: Wet Weight

Seq Number: 3126048

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.14.2020 20:43	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.14.2020 20:43	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.14.2020 20:43	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.14.2020 20:43	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.14.2020 20:43	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.14.2020 20:43	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.14.2020 20:43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	116	%	70-130	05.14.2020 20:43		
4-Bromofluorobenzene	460-00-4	104	%	70-130	05.14.2020 20:43		



Certificate of Analytical Results 661684

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SS02** Matrix: Soil Date Received: 05.14.2020 16:32
 Lab Sample Id: 661684-002 Date Collected: 05.14.2020 11:25 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.14.2020 17:43 Basis: Wet Weight
 Seq Number: 3126031

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3620	99.6	mg/kg	05.14.2020 22:16		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.15.2020 17:30 Basis: Wet Weight
 Seq Number: 3126202

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.15.2020 23:09	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.15.2020 23:09	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.15.2020 23:09	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	05.15.2020 23:09	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.15.2020 23:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	05.15.2020 23:09	
o-Terphenyl	84-15-1	107	%	70-135	05.15.2020 23:09	



Certificate of Analytical Results 661684

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: SS02
Lab Sample Id: 661684-002

Matrix: Soil
Date Collected: 05.14.2020 11:25

Date Received: 05.14.2020 16:32
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.14.2020 17:00

Basis: Wet Weight

Seq Number: 3126048

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.14.2020 21:05	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.14.2020 21:05	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.14.2020 21:05	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.14.2020 21:05	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.14.2020 21:05	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.14.2020 21:05	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.14.2020 21:05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	101	%	70-130	05.14.2020 21:05		
1,4-Difluorobenzene	540-36-3	115	%	70-130	05.14.2020 21:05		



Certificate of Analytical Results 661684

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SS03** Matrix: Soil Date Received: 05.14.2020 16:32
 Lab Sample Id: 661684-003 Date Collected: 05.14.2020 11:40 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.14.2020 17:43 Basis: Wet Weight
 Seq Number: 3126031

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6470	99.8	mg/kg	05.14.2020 22:22		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.15.2020 17:30 Basis: Wet Weight
 Seq Number: 3126202

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.15.2020 23:30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	05.15.2020 23:30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.15.2020 23:30	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	05.15.2020 23:30	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	05.15.2020 23:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	05.15.2020 23:30	
o-Terphenyl	84-15-1	108	%	70-135	05.15.2020 23:30	



Certificate of Analytical Results 661684

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SS03**
Lab Sample Id: 661684-003

Matrix: Soil
Date Collected: 05.14.2020 11:40

Date Received: 05.14.2020 16:32
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.14.2020 17:00

Basis: Wet Weight

Seq Number: 3126048

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.14.2020 21:26	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.14.2020 21:26	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.14.2020 21:26	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.14.2020 21:26	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.14.2020 21:26	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.14.2020 21:26	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.14.2020 21:26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	70-130	05.14.2020 21:26		
1,4-Difluorobenzene	540-36-3	101	%	70-130	05.14.2020 21:26		



Certificate of Analytical Results 661684

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SS04** Matrix: Soil Date Received: 05.14.2020 16:32
 Lab Sample Id: 661684-004 Date Collected: 05.14.2020 11:55 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.14.2020 17:43 Basis: Wet Weight
 Seq Number: 3126031

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	6540	99.8	mg/kg	05.14.2020 22:28		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.15.2020 17:30 Basis: Wet Weight
 Seq Number: 3126202

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.15.2020 23:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.15.2020 23:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.15.2020 23:51	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	05.15.2020 23:51	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.15.2020 23:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	05.15.2020 23:51	
o-Terphenyl	84-15-1	104	%	70-135	05.15.2020 23:51	



Certificate of Analytical Results 661684

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SS04**
Lab Sample Id: 661684-004

Matrix: Soil
Date Collected: 05.14.2020 11:55

Date Received: 05.14.2020 16:32
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.14.2020 17:00

Basis: Wet Weight

Seq Number: 3126048

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	05.14.2020 21:47	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	05.14.2020 21:47	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	05.14.2020 21:47	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	05.14.2020 21:47	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	05.14.2020 21:47	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	05.14.2020 21:47	U	1
Total BTEX		<0.00198	0.00198	mg/kg	05.14.2020 21:47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	05.14.2020 21:47		
1,4-Difluorobenzene	540-36-3	116	%	70-130	05.14.2020 21:47		



Certificate of Analytical Results 661684

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: SS05 Matrix: Soil Date Received: 05.14.2020 16:32
 Lab Sample Id: 661684-005 Date Collected: 05.14.2020 12:10 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.14.2020 17:43 Basis: Wet Weight
 Seq Number: 3126031

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4930	100	mg/kg	05.14.2020 22:34		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.15.2020 17:30 Basis: Wet Weight
 Seq Number: 3126202

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.16.2020 00:11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.16.2020 00:11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.16.2020 00:11	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	05.16.2020 00:11	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.16.2020 00:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	05.16.2020 00:11	
o-Terphenyl	84-15-1	107	%	70-135	05.16.2020 00:11	



Certificate of Analytical Results 661684

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: SS05
Lab Sample Id: 661684-005

Matrix: Soil
Date Collected: 05.14.2020 12:10

Date Received: 05.14.2020 16:32
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.14.2020 17:00

Basis: Wet Weight

Seq Number: 3126048

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.14.2020 22:09	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.14.2020 22:09	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.14.2020 22:09	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.14.2020 22:09	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.14.2020 22:09	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.14.2020 22:09	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.14.2020 22:09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	116	%	70-130	05.14.2020 22:09		
4-Bromofluorobenzene	460-00-4	103	%	70-130	05.14.2020 22:09		



Certificate of Analytical Results 661684

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SS06** Matrix: Soil Date Received: 05.14.2020 16:32
 Lab Sample Id: 661684-006 Date Collected: 05.14.2020 12:25 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.15.2020 12:10 Basis: Wet Weight
 Seq Number: 3126175

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5710	99.0	mg/kg	05.15.2020 12:59		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.15.2020 17:30 Basis: Wet Weight
 Seq Number: 3126202

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.16.2020 00:32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	05.16.2020 00:32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.16.2020 00:32	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	05.16.2020 00:32	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	05.16.2020 00:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	05.16.2020 00:32	
o-Terphenyl	84-15-1	107	%	70-135	05.16.2020 00:32	



Certificate of Analytical Results 661684

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SS06**
Lab Sample Id: 661684-006

Matrix: Soil
Date Collected: 05.14.2020 12:25

Date Received: 05.14.2020 16:32
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.14.2020 17:00

Basis: Wet Weight

Seq Number: 3126048

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.14.2020 22:30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.14.2020 22:30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.14.2020 22:30	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.14.2020 22:30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.14.2020 22:30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.14.2020 22:30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.14.2020 22:30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	70-130	05.14.2020 22:30		
1,4-Difluorobenzene	540-36-3	116	%	70-130	05.14.2020 22:30		



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: SS07 Matrix: Soil Date Received: 05.14.2020 16:32
 Lab Sample Id: 661684-007 Date Collected: 05.14.2020 12:40 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.15.2020 12:10 Basis: Wet Weight
 Seq Number: 3126175

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8560	202	mg/kg	05.15.2020 13:17		20

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.15.2020 17:30 Basis: Wet Weight
 Seq Number: 3126202

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.16.2020 00:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	05.16.2020 00:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.16.2020 00:53	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	05.16.2020 00:53	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	05.16.2020 00:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	05.16.2020 00:53	
o-Terphenyl	84-15-1	107	%	70-135	05.16.2020 00:53	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: SS07
Lab Sample Id: 661684-007

Matrix: Soil
Date Collected: 05.14.2020 12:40

Date Received: 05.14.2020 16:32
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.14.2020 17:00

Basis: Wet Weight

Seq Number: 3126048

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.14.2020 22:52	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.14.2020 22:52	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.14.2020 22:52	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.14.2020 22:52	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.14.2020 22:52	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.14.2020 22:52	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.14.2020 22:52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	70-130	05.14.2020 22:52		
1,4-Difluorobenzene	540-36-3	114	%	70-130	05.14.2020 22:52		



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SS08** Matrix: Soil Date Received: 05.14.2020 16:32
 Lab Sample Id: 661684-008 Date Collected: 05.14.2020 12:55 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.15.2020 12:10 Basis: Wet Weight
 Seq Number: 3126175

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4810	100	mg/kg	05.15.2020 13:23		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.15.2020 17:30 Basis: Wet Weight
 Seq Number: 3126202

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	05.16.2020 01:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	05.16.2020 01:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	05.16.2020 01:33	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	05.16.2020 01:33	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	05.16.2020 01:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	05.16.2020 01:33	
o-Terphenyl	84-15-1	110	%	70-135	05.16.2020 01:33	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SS08**
Lab Sample Id: 661684-008

Matrix: Soil
Date Collected: 05.14.2020 12:55

Date Received: 05.14.2020 16:32
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.14.2020 17:00

Basis: Wet Weight

Seq Number: 3126048

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.14.2020 23:13	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.14.2020 23:13	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.14.2020 23:13	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.14.2020 23:13	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.14.2020 23:13	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.14.2020 23:13	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.14.2020 23:13	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	05.14.2020 23:13		
1,4-Difluorobenzene	540-36-3	117	%	70-130	05.14.2020 23:13		



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JRU 21 SWD Riser

Sample Id: **SS09** Matrix: Soil Date Received: 05.14.2020 16:32
 Lab Sample Id: 661684-009 Date Collected: 05.14.2020 13:10 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.15.2020 12:10 Basis: Wet Weight
 Seq Number: 3126175

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	93.5	10.0	mg/kg	05.15.2020 13:29		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.15.2020 17:30 Basis: Wet Weight
 Seq Number: 3126202

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.16.2020 01:54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.16.2020 01:54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.16.2020 01:54	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	05.16.2020 01:54	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.16.2020 01:54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	05.16.2020 01:54	
o-Terphenyl	84-15-1	107	%	70-135	05.16.2020 01:54	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SS09**
Lab Sample Id: 661684-009

Matrix: Soil
Date Collected: 05.14.2020 13:10

Date Received: 05.14.2020 16:32
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.14.2020 17:00

Basis: Wet Weight

Seq Number: 3126048

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.14.2020 23:34	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.14.2020 23:34	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.14.2020 23:34	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.14.2020 23:34	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.14.2020 23:34	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.14.2020 23:34	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.14.2020 23:34	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	116	%	70-130	05.14.2020 23:34		
4-Bromofluorobenzene	460-00-4	102	%	70-130	05.14.2020 23:34		



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JRU 21 SWD Riser

Sample Id: **SS10** Matrix: Soil Date Received: 05.14.2020 16:32
 Lab Sample Id: 661684-010 Date Collected: 05.14.2020 13:25 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.15.2020 12:10 Basis: Wet Weight
 Seq Number: 3126175

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4950	101	mg/kg	05.15.2020 13:35		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.15.2020 17:30 Basis: Wet Weight
 Seq Number: 3126202

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	05.16.2020 02:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	05.16.2020 02:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	05.16.2020 02:14	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	05.16.2020 02:14	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	05.16.2020 02:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	05.16.2020 02:14	
o-Terphenyl	84-15-1	107	%	70-135	05.16.2020 02:14	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SS10**
Lab Sample Id: 661684-010

Matrix: Soil
Date Collected: 05.14.2020 13:25

Date Received: 05.14.2020 16:32
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.14.2020 17:00

Basis: Wet Weight

Seq Number: 3126048

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.15.2020 00:39	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.15.2020 00:39	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.15.2020 00:39	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.15.2020 00:39	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.15.2020 00:39	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.15.2020 00:39	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.15.2020 00:39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	05.15.2020 00:39		
1,4-Difluorobenzene	540-36-3	117	%	70-130	05.15.2020 00:39		



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JRU 21 SWD Riser

Sample Id: **SS11** Matrix: Soil Date Received: 05.14.2020 16:32
 Lab Sample Id: 661684-011 Date Collected: 05.14.2020 13:40 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.15.2020 12:10 Basis: Wet Weight
 Seq Number: 3126175

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.6	9.96	mg/kg	05.15.2020 13:52		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.15.2020 17:30 Basis: Wet Weight
 Seq Number: 3126202

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.16.2020 02:35	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.16.2020 02:35	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.16.2020 02:35	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	05.16.2020 02:35	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.16.2020 02:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	05.16.2020 02:35	
o-Terphenyl	84-15-1	105	%	70-135	05.16.2020 02:35	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SS11**
Lab Sample Id: 661684-011

Matrix: Soil
Date Collected: 05.14.2020 13:40

Date Received: 05.14.2020 16:32
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.14.2020 17:00

Basis: Wet Weight

Seq Number: 3126048

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.15.2020 01:00	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.15.2020 01:00	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.15.2020 01:00	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.15.2020 01:00	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.15.2020 01:00	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.15.2020 01:00	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.15.2020 01:00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	05.15.2020 01:00		
1,4-Difluorobenzene	540-36-3	117	%	70-130	05.15.2020 01:00		



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SS12** Matrix: Soil Date Received: 05.14.2020 16:32
 Lab Sample Id: 661684-012 Date Collected: 05.14.2020 13:55 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.15.2020 12:10 Basis: Wet Weight
 Seq Number: 3126175

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.3	9.98	mg/kg	05.15.2020 13:58		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.15.2020 17:30 Basis: Wet Weight
 Seq Number: 3126202

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	05.16.2020 02:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	05.16.2020 02:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	05.16.2020 02:55	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	05.16.2020 02:55	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	05.16.2020 02:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	05.16.2020 02:55	
o-Terphenyl	84-15-1	108	%	70-135	05.16.2020 02:55	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SS12**
Lab Sample Id: 661684-012

Matrix: Soil
Date Collected: 05.14.2020 13:55

Date Received: 05.14.2020 16:32
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.14.2020 17:00

Basis: Wet Weight

Seq Number: 3126048

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.15.2020 01:21	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.15.2020 01:21	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.15.2020 01:21	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	05.15.2020 01:21	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.15.2020 01:21	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.15.2020 01:21	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.15.2020 01:21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	05.15.2020 01:21		
1,4-Difluorobenzene	540-36-3	117	%	70-130	05.15.2020 01:21		



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JRU 21 SWD Riser

Sample Id: **SS13** Matrix: Soil Date Received: 05.14.2020 16:32
 Lab Sample Id: 661684-013 Date Collected: 05.14.2020 14:10 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.15.2020 12:10 Basis: Wet Weight
 Seq Number: 3126175

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8430	101	mg/kg	05.15.2020 14:04		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.15.2020 17:30 Basis: Wet Weight
 Seq Number: 3126202

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	05.16.2020 03:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	05.16.2020 03:16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	05.16.2020 03:16	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	05.16.2020 03:16	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	05.16.2020 03:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	05.16.2020 03:16	
o-Terphenyl	84-15-1	110	%	70-135	05.16.2020 03:16	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SS13**
Lab Sample Id: 661684-013

Matrix: Soil
Date Collected: 05.14.2020 14:10

Date Received: 05.14.2020 16:32
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.14.2020 17:00

Basis: Wet Weight

Seq Number: 3126048

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.15.2020 01:43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.15.2020 01:43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.15.2020 01:43	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	05.15.2020 01:43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.15.2020 01:43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.15.2020 01:43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.15.2020 01:43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	70-130	05.15.2020 01:43		
1,4-Difluorobenzene	540-36-3	114	%	70-130	05.15.2020 01:43		



Certificate of Analytical Results 661684

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SS14** Matrix: Soil Date Received: 05.14.2020 16:32
 Lab Sample Id: 661684-014 Date Collected: 05.14.2020 14:25 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 05.15.2020 12:10 Basis: Wet Weight
 Seq Number: 3126175

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4310	99.8	mg/kg	05.15.2020 14:10		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 05.15.2020 17:30 Basis: Wet Weight
 Seq Number: 3126202

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.16.2020 03:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	05.16.2020 03:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.16.2020 03:36	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	05.16.2020 03:36	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	05.16.2020 03:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	05.16.2020 03:36	
o-Terphenyl	84-15-1	108	%	70-135	05.16.2020 03:36	



Certificate of Analytical Results 661684

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SS14**
Lab Sample Id: 661684-014

Matrix: Soil
Date Collected: 05.14.2020 14:25

Date Received: 05.14.2020 16:32
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.14.2020 17:00

Basis: Wet Weight

Seq Number: 3126048

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	05.15.2020 02:04	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	05.15.2020 02:04	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	05.15.2020 02:04	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	05.15.2020 02:04	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	05.15.2020 02:04	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	05.15.2020 02:04	U	1
Total BTEX		<0.00200	0.00200	mg/kg	05.15.2020 02:04	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	70-130	05.15.2020 02:04		
1,4-Difluorobenzene	540-36-3	116	%	70-130	05.15.2020 02:04		



Certificate of Analytical Results 661684

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SS15** Matrix: **Soil** Date Received: 05.14.2020 16:32
 Lab Sample Id: 661684-015 Date Collected: 05.14.2020 14:40 Sample Depth: 0.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **MAB** % Moisture:
 Analyst: **MAB** Date Prep: 05.15.2020 12:10 Basis: **Wet Weight**
 Seq Number: 3126175

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4470	101	mg/kg	05.15.2020 14:16		10

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **DTH** % Moisture:
 Analyst: **DTH** Date Prep: 05.15.2020 17:30 Basis: **Wet Weight**
 Seq Number: 3126202

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	05.16.2020 03:57	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	05.16.2020 03:57	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	05.16.2020 03:57	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	05.16.2020 03:57	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	05.16.2020 03:57	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	05.16.2020 03:57	
o-Terphenyl	84-15-1	109	%	70-135	05.16.2020 03:57	



Certificate of Analytical Results 661684

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SS15**
Lab Sample Id: 661684-015

Matrix: Soil
Date Collected: 05.14.2020 14:40

Date Received: 05.14.2020 16:32
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 05.14.2020 17:00

Basis: Wet Weight

Seq Number: 3126048

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	05.15.2020 02:26	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	05.15.2020 02:26	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	05.15.2020 02:26	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	05.15.2020 02:26	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	05.15.2020 02:26	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	05.15.2020 02:26	U	1
Total BTEX		<0.00201	0.00201	mg/kg	05.15.2020 02:26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	05.15.2020 02:26	
1,4-Difluorobenzene	540-36-3	116	%	70-130	05.15.2020 02:26	



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



LT Environmental, Inc.

JRU 21 SWD Riser

Analytical Method: Chloride by EPA 300

Seq Number: 3126031

MB Sample Id: 7703403-1-BLK

Matrix: Solid

LCS Sample Id: 7703403-1-BKS

Prep Method: E300P

Date Prep: 05.14.2020

LCSD Sample Id: 7703403-1-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	250	100	249	100	90-110	0	20	mg/kg	05.14.2020 19:43	

Analytical Method: Chloride by EPA 300

Seq Number: 3126175

MB Sample Id: 7703454-1-BLK

Matrix: Solid

LCS Sample Id: 7703454-1-BKS

Prep Method: E300P

Date Prep: 05.15.2020

LCSD Sample Id: 7703454-1-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	249	100	248	99	90-110	0	20	mg/kg	05.15.2020 12:48	

Analytical Method: Chloride by EPA 300

Seq Number: 3126031

Parent Sample Id: 661663-001

Matrix: Soil

MS Sample Id: 661663-001 S

Prep Method: E300P

Date Prep: 05.14.2020

MSD Sample Id: 661663-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	184	200	372	94	403	110	90-110	8	20	mg/kg	05.14.2020 20:01	

Analytical Method: Chloride by EPA 300

Seq Number: 3126031

Parent Sample Id: 661667-001

Matrix: Soil

MS Sample Id: 661667-001 S

Prep Method: E300P

Date Prep: 05.14.2020

MSD Sample Id: 661667-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	73.8	200	269	98	269	98	90-110	0	20	mg/kg	05.14.2020 21:23	

Analytical Method: Chloride by EPA 300

Seq Number: 3126175

Parent Sample Id: 661684-006

Matrix: Soil

MS Sample Id: 661684-006 S

Prep Method: E300P

Date Prep: 05.15.2020

MSD Sample Id: 661684-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	5710	202	5900	94	5920	104	90-110	0	20	mg/kg	05.15.2020 13:05	

Analytical Method: Chloride by EPA 300

Seq Number: 3126175

Parent Sample Id: 661686-001

Matrix: Soil

MS Sample Id: 661686-001 S

Prep Method: E300P

Date Prep: 05.15.2020

MSD Sample Id: 661686-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	29.4	200	222	96	222	96	90-110	0	20	mg/kg	05.15.2020 14:28	

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

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

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

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



LT Environmental, Inc.

JRU 21 SWD Riser

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126202

MB Sample Id: 7703509-1-BLK

Matrix: Solid

Prep Method: SW8015P

Date Prep: 05.15.2020

LCS Sample Id: 7703509-1-BKS

LCSD Sample Id: 7703509-1-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	1020	102	924	92	70-135	10	35	mg/kg	05.15.2020 20:24	
Diesel Range Organics (DRO)	<50.0	1000	1180	118	1080	108	70-135	9	35	mg/kg	05.15.2020 20:24	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	104		130		122		70-135	%	05.15.2020 20:24
o-Terphenyl	106		129		123		70-135	%	05.15.2020 20:24

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126202

Matrix: Solid

Prep Method: SW8015P

Date Prep: 05.15.2020

MB Sample Id: 7703509-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	05.15.2020 20:04	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3126202

Matrix: Soil

Prep Method: SW8015P

Date Prep: 05.15.2020

Parent Sample Id: 661721-004

MS Sample Id: 661721-004 S

MSD Sample Id: 661721-004 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.1	1000	899	90	924	93	70-135	3	35	mg/kg	05.15.2020 21:25	
Diesel Range Organics (DRO)	413	1000	1250	84	1290	88	70-135	3	35	mg/kg	05.15.2020 21:25	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	120		118		70-135	%	05.15.2020 21:25
o-Terphenyl	122		123		70-135	%	05.15.2020 21:25

Analytical Method: BTEX by EPA 8021B

Seq Number: 3126048

Matrix: Solid

Prep Method: SW5035A

Date Prep: 05.14.2020

MB Sample Id: 7703384-1-BLK

LCS Sample Id: 7703384-1-BKS

LCSD Sample Id: 7703384-1-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	0.119	119	0.117	117	70-130	2	35	mg/kg	05.14.2020 17:31	
Toluene	<0.00200	0.100	0.110	110	0.109	109	70-130	1	35	mg/kg	05.14.2020 17:31	
Ethylbenzene	<0.00200	0.100	0.105	105	0.102	102	71-129	3	35	mg/kg	05.14.2020 17:31	
m,p-Xylenes	<0.00400	0.200	0.203	102	0.198	99	70-135	2	35	mg/kg	05.14.2020 17:31	
o-Xylene	<0.00200	0.100	0.104	104	0.102	102	71-133	2	35	mg/kg	05.14.2020 17:31	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	115		108		109		70-130	%	05.14.2020 17:31
4-Bromofluorobenzene	102		94		97		70-130	%	05.14.2020 17:31

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

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

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

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



LT Environmental, Inc.

JRU 21 SWD Riser

Analytical Method: BTEX by EPA 8021B

Seq Number: 3126048

Parent Sample Id: 661668-004

Matrix: Soil

MS Sample Id: 661668-004 S

Prep Method: SW5035A

Date Prep: 05.14.2020

MSD Sample Id: 661668-004 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	0.122	122	0.111	111	70-130	9	35	mg/kg	05.14.2020 18:56	
Toluene	<0.00200	0.0998	0.112	112	0.101	101	70-130	10	35	mg/kg	05.14.2020 18:56	
Ethylbenzene	<0.00200	0.0998	0.107	107	0.0948	95	71-129	12	35	mg/kg	05.14.2020 18:56	
m,p-Xylenes	<0.00399	0.200	0.207	104	0.183	92	70-135	12	35	mg/kg	05.14.2020 18:56	
o-Xylene	<0.00200	0.0998	0.106	106	0.0945	95	71-133	11	35	mg/kg	05.14.2020 18:56	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	110		110		70-130	%	05.14.2020 18:56
4-Bromofluorobenzene	96		91		70-130	%	05.14.2020 18:56

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

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

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

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



Chain of Custody

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) 794-1298
Hobbs, NM (575) 392-7550 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000

Work Order No: 1631684

www.xenco.com Page 1 of 2

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Little
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:	slg@ltenv.com, dmoir@ltenv.com
Project Name:	TRU 21 SWB Riser	Turn Around	
Project Number:	012920014	Routine	☒
P.O. Number:		Rush:	
Sampler's Name:	Spencer Lo	Due Date:	

SAMPLE RECEIPT		Temp Blank:	☒ Yes	☒ No	Wet Ice:	☒ Yes	☒ No
Temperature (°C):	6	Thermometer ID					
Received In tact:	☒ Yes	☒ No					
Cooler Custody Seals:	Yes ☒ No ☒	Correction Factor: -0.2					
Sample Custody Seals:	Yes ☒ No ☒	Total Containers: 15					

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	ANALYSIS REQUEST										Work Order Notes
					Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)							
SS01	S	5-14-20	11:10	0.5'	1	X	X	X							
SS02			11:25												
SS03			11:40												
SS04			11:55												
SS05			12:10												
SS06			12:25												
SS07			12:40												
SS08			12:55												
SS09			1:10												
SS10			1:25												

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 Ti 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 Ti U
1631 / 245.1 / 7470 / 7471 : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	5-14-20 1632			

Houston, TX (281) 240-4200 Dallas, TX (214) 902-0300 San Antonio, TX (210) 509-3333
Midland, TX (432) 704-5440 El Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 446-8900 Tampa, FL (813) 241-7550
Hobbs, NM (575) 392-7550

10101084

Work Order Comments									
Program: UST/PST		☐ RRP	☐ Brownfields	☐ RRC	☐ Superfund				
State of Project:									
Reporting: Level II		☐ Level III	☐ ST/UST	☐ RRP	☐ Level IV				
Deliverables: EDD		☐	ADAPT	☐	Other:				

[illegible][illegible][illegible]

1:3

11

1631 / 245.1 / 7470 / 7471 : Hg

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[illegible]

XENCO Laboratories

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 05.14.2020 04.32.00 PM

Work Order #: 661684

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

Samples received in bulk containers.

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Elizabeth McClellan

Date: 05.14.2020

Checklist reviewed by:



Jessica Kramer

Date: 05.15.2020

Certificate of Analysis Summary 677445



LT Environmental, Inc., Arvada, CO

Project Name: JRU 21 SWD Riser

Project Id: TE012920074

Date Received in Lab: Tue 11.10.2020 16:55

Contact: Dan Moir

Report Date: 11.12.2020 15:53

Project Location:

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	677445-001	677445-002	677445-003	677445-004	677445-005	677445-006
	<i>Field Id:</i>	BH01	BH01 A	BH02	BH03	BH04	BH05
	<i>Depth:</i>	4- ft	8- ft	2- ft	2- ft	2.5- ft	2.5- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	11.10.2020 09:40	11.10.2020 13:23	11.10.2020 10:07	11.10.2020 10:26	11.10.2020 10:43	11.10.2020 10:58
BTEX by EPA 8021B	<i>Extracted:</i>	11.11.2020 09:00	11.11.2020 09:00	11.11.2020 09:00	11.11.2020 09:00	11.11.2020 09:00	11.11.2020 09:00
	<i>Analyzed:</i>	11.11.2020 14:59	11.11.2020 15:21	11.11.2020 16:39	11.11.2020 17:01	11.11.2020 17:24	11.11.2020 17:46
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201	<0.00202 0.00202
Toluene		<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201	<0.00202 0.00202
Ethylbenzene		<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201	<0.00202 0.00202
m,p-Xylenes		<0.00400 0.00400	<0.00398 0.00398	<0.00402 0.00402	<0.00398 0.00398	<0.00402 0.00402	<0.00403 0.00403
o-Xylene		<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201	<0.00202 0.00202
Total Xylenes		<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201	<0.00202 0.00202
Total BTEX		<0.00200 0.00200	<0.00199 0.00199	<0.00201 0.00201	<0.00199 0.00199	<0.00201 0.00201	<0.00202 0.00202
Chloride by EPA 300	<i>Extracted:</i>	11.11.2020 13:14	11.11.2020 13:14	11.11.2020 13:14	11.11.2020 13:14	11.11.2020 13:14	11.11.2020 13:14
	<i>Analyzed:</i>	11.11.2020 14:07	11.11.2020 14:23	11.11.2020 14:29	11.11.2020 14:34	11.11.2020 14:40	11.11.2020 14:56
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		4440 49.6	284 9.90	<9.92 9.92	<9.94 9.94	4210 49.9	14.2 10.0
TPH by SW8015 Mod	<i>Extracted:</i>	11.11.2020 11:00	11.11.2020 11:00	11.11.2020 11:00	11.11.2020 11:00	11.11.2020 11:00	11.11.2020 11:00
	<i>Analyzed:</i>	11.11.2020 15:50	11.11.2020 16:51	11.11.2020 17:11	11.11.2020 17:32	11.11.2020 17:52	11.11.2020 18:13
	<i>Units/RL:</i>	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	<50.1 50.1	<50.1 50.1	<49.9 49.9	<50.3 50.3	<49.9 49.9
Diesel Range Organics (DRO)		<50.0 50.0	<50.1 50.1	<50.1 50.1	<49.9 49.9	<50.3 50.3	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.1 50.1	<50.1 50.1	<49.9 49.9	<50.3 50.3	<49.9 49.9
Total GRO-DRO		<50.0 50.0	<50.1 50.1	<50.1 50.1	<49.9 49.9	<50.3 50.3	<49.9 49.9
Total TPH		<50.0 50.0	<50.1 50.1	<50.1 50.1	<49.9 49.9	<50.3 50.3	<49.9 49.9

BRL - Below Reporting Limit

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

Certificate of Analysis Summary 677445



LT Environmental, Inc., Arvada, CO

Project Name: JRU 21 SWD Riser

Project Id: TE012920074

Date Received in Lab: Tue 11.10.2020 16:55

Contact: Dan Moir

Report Date: 11.12.2020 15:53

Project Location:

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	677445-007	677445-008	677445-009	677445-010	677445-011	677445-012
	<i>Field Id:</i>	BH06	BH06 A	BH07	BH08	BH09	BH09 A
	<i>Depth:</i>	1- ft	2- ft	2- ft	2- ft	1- ft	2- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	11.10.2020 15:10	11.10.2020 11:20	11.10.2020 11:31	11.10.2020 11:50	11.10.2020 15:10	11.10.2020 12:08
BTEX by EPA 8021B	<i>Extracted:</i>	11.11.2020 09:00	11.11.2020 09:00	11.11.2020 09:00	11.11.2020 09:00	11.11.2020 09:00	11.11.2020 09:00
	<i>Analyzed:</i>	11.11.2020 18:09	11.11.2020 18:31	11.11.2020 18:53	11.11.2020 19:16	11.11.2020 19:38	11.11.2020 20:01
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200
m,p-Xylenes		<0.00400 0.00400	<0.00399 0.00399	<0.00398 0.00398	<0.00403 0.00403	<0.00398 0.00398	<0.00399 0.00399
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	11.11.2020 13:14	11.11.2020 13:14	11.11.2020 13:14	11.11.2020 13:14	11.11.2020 13:14	11.11.2020 13:14
	<i>Analyzed:</i>	11.11.2020 15:02	11.11.2020 15:07	11.11.2020 15:12	11.11.2020 15:18	11.11.2020 15:23	11.11.2020 15:40
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		68.0 10.1	11.1 10.0	121 10.0	<10.0 10.0	4600 49.9	3800 50.1
TPH by SW8015 Mod	<i>Extracted:</i>	11.11.2020 11:00	11.11.2020 11:00	11.11.2020 11:00	11.11.2020 11:00	11.11.2020 11:00	11.11.2020 11:00
	<i>Analyzed:</i>	11.11.2020 18:33	11.11.2020 18:53	11.11.2020 19:12	11.11.2020 19:32	11.11.2020 20:12	11.11.2020 20:33
	<i>Units/RL:</i>	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	<50.2 50.2	<50.3 50.3	<50.1 50.1	<50.2 50.2
Diesel Range Organics (DRO)		<50.0 50.0	<49.8 49.8	<50.2 50.2	<50.3 50.3	<50.1 50.1	<50.2 50.2
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.8 49.8	<50.2 50.2	<50.3 50.3	<50.1 50.1	<50.2 50.2
Total GRO-DRO		<50.0 50.0	<49.8 49.8	<50.2 50.2	<50.3 50.3	<50.1 50.1	<50.2 50.2
Total TPH		<50.0 50.0	<49.8 49.8	<50.2 50.2	<50.3 50.3	<50.1 50.1	<50.2 50.2

BRL - Below Reporting Limit

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

Certificate of Analysis Summary 677445



LT Environmental, Inc., Arvada, CO

Project Name: JRU 21 SWD Riser

Project Id: TE012920074

Date Received in Lab: Tue 11.10.2020 16:55

Contact: Dan Moir

Report Date: 11.12.2020 15:53

Project Location:

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	677445-013	677445-014	677445-015	677445-016	677445-017	677445-018
	<i>Field Id:</i>	BH10	BH10 A	BH11	BH12	BH13	BH13 A
	<i>Depth:</i>	1- ft	2- ft	2- ft	2- ft	1- ft	2- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	11.10.2020 15:14	11.10.2020 12:23	11.10.2020 13:56	11.10.2020 14:00	11.10.2020 15:17	11.10.2020 14:27
BTEX by EPA 8021B	<i>Extracted:</i>	11.11.2020 14:32	11.11.2020 14:32	11.11.2020 14:32	11.11.2020 14:32	11.11.2020 14:32	11.11.2020 14:32
	<i>Analyzed:</i>	11.11.2020 14:54	11.11.2020 15:17	11.11.2020 15:39	11.11.2020 16:01	11.11.2020 16:24	11.11.2020 16:46
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200
m,p-Xylenes		<0.00399 0.00399	<0.00399 0.00399	<0.00396 0.00396	<0.00401 0.00401	<0.00403 0.00403	<0.00400 0.00400
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	11.11.2020 13:14	11.11.2020 13:14	11.11.2020 13:14	11.11.2020 13:14	11.11.2020 13:14	11.11.2020 13:14
	<i>Analyzed:</i>	11.11.2020 15:45	11.11.2020 16:02	11.11.2020 16:07	11.11.2020 16:13	11.11.2020 16:18	11.11.2020 16:24
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		88.4 9.96	48.1 9.98	12.4 9.98	<9.98 9.98	<9.94 9.94	13.6 10.0
TPH by SW8015 Mod	<i>Extracted:</i>	11.11.2020 11:00	11.11.2020 11:00	11.11.2020 11:00	11.11.2020 11:00	11.11.2020 11:00	11.11.2020 11:00
	<i>Analyzed:</i>	11.11.2020 20:53	11.11.2020 21:13	11.11.2020 21:33	11.11.2020 21:53	11.11.2020 22:13	11.11.2020 22:33
	<i>Units/RL:</i>	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	<49.9 49.9	<49.8 49.8	<49.8 49.8	<50.1 50.1	<49.9 49.9
Diesel Range Organics (DRO)		<49.9 49.9	<49.9 49.9	<49.8 49.8	<49.8 49.8	<50.1 50.1	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<49.9 49.9	<49.8 49.8	<49.8 49.8	<50.1 50.1	<49.9 49.9
Total GRO-DRO		<49.9 49.9	<49.9 49.9	<49.8 49.8	<49.8 49.8	<50.1 50.1	<49.9 49.9
Total TPH		<49.9 49.9	<49.9 49.9	<49.8 49.8	<49.8 49.8	<50.1 50.1	<49.9 49.9

BRL - Below Reporting Limit

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

Certificate of Analysis Summary 677445



LT Environmental, Inc., Arvada, CO

Project Name: JRU 21 SWD Riser

Project Id: TE012920074

Contact: Dan Moir

Project Location:

Date Received in Lab: Tue 11.10.2020 16:55

Report Date: 11.12.2020 15:53

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	677445-019	677445-020				
	Field Id:	BH14	BH14 A				
	Depth:	1- ft	2- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	11.10.2020 15:20	11.10.2020 14:37				
BTEX by EPA 8021B	Extracted:	11.11.2020 14:32	11.11.2020 14:32				
	Analyzed:	11.11.2020 17:09	11.11.2020 17:31				
	Units/RL:	mg/kg RL	mg/kg RL				
Benzene		<0.00199 0.00199	<0.00198 0.00198				
Toluene		<0.00199 0.00199	<0.00198 0.00198				
Ethylbenzene		<0.00199 0.00199	<0.00198 0.00198				
m,p-Xylenes		<0.00398 0.00398	<0.00396 0.00396				
o-Xylene		<0.00199 0.00199	<0.00198 0.00198				
Total Xylenes		<0.00199 0.00199	<0.00198 0.00198				
Total BTEX		<0.00199 0.00199	<0.00198 0.00198				
Chloride by EPA 300	Extracted:	11.11.2020 13:14	11.11.2020 13:14				
	Analyzed:	11.11.2020 16:29	11.11.2020 16:35				
	Units/RL:	mg/kg RL	mg/kg RL				
Chloride		13.1 9.98	<10.0 10.0				
TPH by SW8015 Mod	Extracted:	11.11.2020 11:00	11.11.2020 11:00				
	Analyzed:	11.11.2020 22:53	11.11.2020 23:14				
	Units/RL:	mg/kg RL	mg/kg RL				
Gasoline Range Hydrocarbons (GRO)		<50.0 50.0	<49.9 49.9				
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9				
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9				
Total GRO-DRO		<50.0 50.0	<49.9 49.9				
Total TPH		<50.0 50.0	<49.9 49.9				

BRL - Below Reporting Limit

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



Analytical Report 677445

for

LT Environmental, Inc.

Project Manager: Dan Moir

JRU 21 SWD Riser

TE012920074

11.12.2020

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: TN102385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



11.12.2020

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: Eurofins Xenco, LLC Report No(s): **677445**

JRU 21 SWD Riser

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) 677445. 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. 677445 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,

A handwritten signature in black ink that reads "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

**Sample Cross Reference 677445****LT Environmental, Inc., Arvada, CO**

JRU 21 SWD Riser

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01	S	11.10.2020 09:40	4 ft	677445-001
BH01 A	S	11.10.2020 13:23	8 ft	677445-002
BH02	S	11.10.2020 10:07	2 ft	677445-003
BH03	S	11.10.2020 10:26	2 ft	677445-004
BH04	S	11.10.2020 10:43	2.5 ft	677445-005
BH05	S	11.10.2020 10:58	2.5 ft	677445-006
BH06	S	11.10.2020 15:10	1 ft	677445-007
BH06 A	S	11.10.2020 11:20	2 ft	677445-008
BH07	S	11.10.2020 11:31	2 ft	677445-009
BH08	S	11.10.2020 11:50	2 ft	677445-010
BH09	S	11.10.2020 15:10	1 ft	677445-011
BH09 A	S	11.10.2020 12:08	2 ft	677445-012
BH10	S	11.10.2020 15:14	1 ft	677445-013
BH10 A	S	11.10.2020 12:23	2 ft	677445-014
BH11	S	11.10.2020 13:56	2 ft	677445-015
BH12	S	11.10.2020 14:00	2 ft	677445-016
BH13	S	11.10.2020 15:17	1 ft	677445-017
BH13 A	S	11.10.2020 14:27	2 ft	677445-018
BH14	S	11.10.2020 15:20	1 ft	677445-019
BH14 A	S	11.10.2020 14:37	2 ft	677445-020



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: JRU 21 SWD Riser

Project ID: TE012920074
Work Order Number(s): 677445

Report Date: 11.12.2020
Date Received: 11.10.2020

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 677445

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH01** Matrix: Soil Date Received: 11.10.2020 16:55
 Lab Sample Id: 677445-001 Date Collected: 11.10.2020 09:40 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.11.2020 13:14 % Moisture:
 Seq Number: 3142040 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4440	49.6	mg/kg	11.11.2020 14:07		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 11.11.2020 11:00 % Moisture:
 Seq Number: 3142042 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.11.2020 15:50	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	11.11.2020 15:50	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.11.2020 15:50	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	11.11.2020 15:50	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	11.11.2020 15:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	11.11.2020 15:50	
o-Terphenyl	84-15-1	94	%	70-135	11.11.2020 15:50	



Certificate of Analytical Results 677445

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH01**
Lab Sample Id: 677445-001

Matrix: Soil
Date Collected: 11.10.2020 09:40

Date Received: 11.10.2020 16:55
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 09:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142036

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.11.2020 14:59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.11.2020 14:59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.11.2020 14:59	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	11.11.2020 14:59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.11.2020 14:59	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.11.2020 14:59	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.11.2020 14:59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	70-130	11.11.2020 14:59		
1,4-Difluorobenzene	540-36-3	103	%	70-130	11.11.2020 14:59		



Certificate of Analytical Results 677445

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH01 A**
Lab Sample Id: 677445-002

Matrix: Soil
Date Collected: 11.10.2020 13:23

Date Received: 11.10.2020 16:55
Sample Depth: 8 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 13:14

% Moisture:
Basis: Wet Weight

Seq Number: 3142040

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	284	9.90	mg/kg	11.11.2020 14:23		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 11.11.2020 11:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142042

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.11.2020 16:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.11.2020 16:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.11.2020 16:51	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	11.11.2020 16:51	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.11.2020 16:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	11.11.2020 16:51	
o-Terphenyl	84-15-1	116	%	70-135	11.11.2020 16:51	



Certificate of Analytical Results 677445

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH01 A**
Lab Sample Id: 677445-002

Matrix: Soil
Date Collected: 11.10.2020 13:23

Date Received: 11.10.2020 16:55
Sample Depth: 8 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 09:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142036

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	11.11.2020 15:21	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	11.11.2020 15:21	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	11.11.2020 15:21	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	11.11.2020 15:21	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	11.11.2020 15:21	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	11.11.2020 15:21	U	1
Total BTEX		<0.00199	0.00199	mg/kg	11.11.2020 15:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	11.11.2020 15:21	
4-Bromofluorobenzene	460-00-4	105	%	70-130	11.11.2020 15:21	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH02**
Lab Sample Id: 677445-003

Matrix: Soil
Date Collected: 11.10.2020 10:07

Date Received: 11.10.2020 16:55
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 13:14

% Moisture:
Basis: Wet Weight

Seq Number: 3142040

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.92	9.92	mg/kg	11.11.2020 14:29	U	1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 11.11.2020 11:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142042

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.11.2020 17:11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.11.2020 17:11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.11.2020 17:11	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	11.11.2020 17:11	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.11.2020 17:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	11.11.2020 17:11	
o-Terphenyl	84-15-1	106	%	70-135	11.11.2020 17:11	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH02**
Lab Sample Id: 677445-003

Matrix: Soil
Date Collected: 11.10.2020 10:07

Date Received: 11.10.2020 16:55
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 09:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142036

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	11.11.2020 16:39	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	11.11.2020 16:39	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	11.11.2020 16:39	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	11.11.2020 16:39	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	11.11.2020 16:39	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	11.11.2020 16:39	U	1
Total BTEX		<0.00201	0.00201	mg/kg	11.11.2020 16:39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	70-130	11.11.2020 16:39		
1,4-Difluorobenzene	540-36-3	94	%	70-130	11.11.2020 16:39		



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH03** Matrix: Soil Date Received: 11.10.2020 16:55
 Lab Sample Id: 677445-004 Date Collected: 11.10.2020 10:26 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.11.2020 13:14 % Moisture:
 Seq Number: 3142040 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.94	9.94	mg/kg	11.11.2020 14:34	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 11.11.2020 11:00 % Moisture:
 Seq Number: 3142042 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.11.2020 17:32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	11.11.2020 17:32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.11.2020 17:32	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	11.11.2020 17:32	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	11.11.2020 17:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	11.11.2020 17:32	
o-Terphenyl	84-15-1	102	%	70-135	11.11.2020 17:32	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH03**
Lab Sample Id: 677445-004

Matrix: Soil
Date Collected: 11.10.2020 10:26

Date Received: 11.10.2020 16:55
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 09:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142036

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	11.11.2020 17:01	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	11.11.2020 17:01	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	11.11.2020 17:01	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	11.11.2020 17:01	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	11.11.2020 17:01	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	11.11.2020 17:01	U	1
Total BTEX		<0.00199	0.00199	mg/kg	11.11.2020 17:01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	70-130	11.11.2020 17:01		
1,4-Difluorobenzene	540-36-3	104	%	70-130	11.11.2020 17:01		



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH04** Matrix: Soil Date Received: 11.10.2020 16:55
 Lab Sample Id: 677445-005 Date Collected: 11.10.2020 10:43 Sample Depth: 2.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.11.2020 13:14 % Moisture:
 Seq Number: 3142040 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4210	49.9	mg/kg	11.11.2020 14:40		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 11.11.2020 11:00 % Moisture:
 Seq Number: 3142042 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	11.11.2020 17:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	11.11.2020 17:52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	11.11.2020 17:52	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	11.11.2020 17:52	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	11.11.2020 17:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	11.11.2020 17:52	
o-Terphenyl	84-15-1	118	%	70-135	11.11.2020 17:52	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH04**
Lab Sample Id: 677445-005

Matrix: Soil
Date Collected: 11.10.2020 10:43

Date Received: 11.10.2020 16:55
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 09:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142036

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	11.11.2020 17:24	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	11.11.2020 17:24	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	11.11.2020 17:24	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	11.11.2020 17:24	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	11.11.2020 17:24	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	11.11.2020 17:24	U	1
Total BTEX		<0.00201	0.00201	mg/kg	11.11.2020 17:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	101	%	70-130	11.11.2020 17:24	
1,4-Difluorobenzene	540-36-3	98	%	70-130	11.11.2020 17:24	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH05** Matrix: Soil Date Received: 11.10.2020 16:55
 Lab Sample Id: 677445-006 Date Collected: 11.10.2020 10:58 Sample Depth: 2.5 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.11.2020 13:14 % Moisture:
 Seq Number: 3142040 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.2	10.0	mg/kg	11.11.2020 14:56		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 11.11.2020 11:00 % Moisture:
 Seq Number: 3142042 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.11.2020 18:13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	11.11.2020 18:13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.11.2020 18:13	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	11.11.2020 18:13	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	11.11.2020 18:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	11.11.2020 18:13	
o-Terphenyl	84-15-1	112	%	70-135	11.11.2020 18:13	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH05**
Lab Sample Id: 677445-006

Matrix: Soil
Date Collected: 11.10.2020 10:58

Date Received: 11.10.2020 16:55
Sample Depth: 2.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 09:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142036

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	11.11.2020 17:46	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	11.11.2020 17:46	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	11.11.2020 17:46	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	11.11.2020 17:46	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	11.11.2020 17:46	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	11.11.2020 17:46	U	1
Total BTEX		<0.00202	0.00202	mg/kg	11.11.2020 17:46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	70-130	11.11.2020 17:46		
1,4-Difluorobenzene	540-36-3	102	%	70-130	11.11.2020 17:46		



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH06**
Lab Sample Id: 677445-007

Matrix: Soil
Date Collected: 11.10.2020 15:10

Date Received: 11.10.2020 16:55
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 13:14

% Moisture:
Basis: Wet Weight

Seq Number: 3142040

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	68.0	10.1	mg/kg	11.11.2020 15:02		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 11.11.2020 11:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142042

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.11.2020 18:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	11.11.2020 18:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.11.2020 18:33	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	11.11.2020 18:33	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	11.11.2020 18:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	11.11.2020 18:33	
o-Terphenyl	84-15-1	102	%	70-135	11.11.2020 18:33	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH06**
Lab Sample Id: 677445-007

Matrix: Soil
Date Collected: 11.10.2020 15:10

Date Received: 11.10.2020 16:55
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 09:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142036

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.11.2020 18:09	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.11.2020 18:09	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.11.2020 18:09	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	11.11.2020 18:09	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.11.2020 18:09	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.11.2020 18:09	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.11.2020 18:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	104	%	70-130	11.11.2020 18:09	
1,4-Difluorobenzene	540-36-3	103	%	70-130	11.11.2020 18:09	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH06 A** Matrix: Soil Date Received: 11.10.2020 16:55
 Lab Sample Id: 677445-008 Date Collected: 11.10.2020 11:20 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.11.2020 13:14 % Moisture:
 Seq Number: 3142040 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.1	10.0	mg/kg	11.11.2020 15:07		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 11.11.2020 11:00 % Moisture:
 Seq Number: 3142042 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.11.2020 18:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.11.2020 18:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.11.2020 18:53	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	11.11.2020 18:53	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.11.2020 18:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	11.11.2020 18:53	
o-Terphenyl	84-15-1	120	%	70-135	11.11.2020 18:53	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH06 A**
Lab Sample Id: 677445-008

Matrix: Soil
Date Collected: 11.10.2020 11:20

Date Received: 11.10.2020 16:55
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 09:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142036

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.11.2020 18:31	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.11.2020 18:31	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.11.2020 18:31	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.11.2020 18:31	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.11.2020 18:31	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.11.2020 18:31	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.11.2020 18:31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	11.11.2020 18:31		
4-Bromofluorobenzene	460-00-4	105	%	70-130	11.11.2020 18:31		



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH07** Matrix: Soil Date Received: 11.10.2020 16:55
 Lab Sample Id: 677445-009 Date Collected: 11.10.2020 11:31 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.11.2020 13:14 % Moisture:
 Seq Number: 3142040 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	121	10.0	mg/kg	11.11.2020 15:12		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 11.11.2020 11:00 % Moisture:
 Seq Number: 3142042 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.11.2020 19:12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.11.2020 19:12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.11.2020 19:12	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.11.2020 19:12	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.11.2020 19:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	11.11.2020 19:12	
o-Terphenyl	84-15-1	118	%	70-135	11.11.2020 19:12	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH07**
Lab Sample Id: 677445-009

Matrix: Soil
Date Collected: 11.10.2020 11:31

Date Received: 11.10.2020 16:55
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 09:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142036

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	11.11.2020 18:53	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	11.11.2020 18:53	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	11.11.2020 18:53	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	11.11.2020 18:53	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	11.11.2020 18:53	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	11.11.2020 18:53	U	1
Total BTEX		<0.00199	0.00199	mg/kg	11.11.2020 18:53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	105	%	70-130	11.11.2020 18:53		
1,4-Difluorobenzene	540-36-3	103	%	70-130	11.11.2020 18:53		



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH08** Matrix: Soil Date Received: 11.10.2020 16:55
 Lab Sample Id: 677445-010 Date Collected: 11.10.2020 11:50 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.11.2020 13:14 % Moisture:
 Seq Number: 3142040 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	11.11.2020 15:18	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 11.11.2020 11:00 % Moisture:
 Seq Number: 3142042 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	11.11.2020 19:32	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	11.11.2020 19:32	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	11.11.2020 19:32	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	11.11.2020 19:32	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	11.11.2020 19:32	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	11.11.2020 19:32	
o-Terphenyl	84-15-1	106	%	70-135	11.11.2020 19:32	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH08**
Lab Sample Id: 677445-010

Matrix: Soil
Date Collected: 11.10.2020 11:50

Date Received: 11.10.2020 16:55
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 09:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142036

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	11.11.2020 19:16	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	11.11.2020 19:16	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	11.11.2020 19:16	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	11.11.2020 19:16	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	11.11.2020 19:16	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	11.11.2020 19:16	U	1
Total BTEX		<0.00202	0.00202	mg/kg	11.11.2020 19:16	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	11.11.2020 19:16		
1,4-Difluorobenzene	540-36-3	105	%	70-130	11.11.2020 19:16		



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH09** Matrix: Soil Date Received: 11.10.2020 16:55
 Lab Sample Id: 677445-011 Date Collected: 11.10.2020 15:10 Sample Depth: 1 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.11.2020 13:14 % Moisture:
 Seq Number: 3142040 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4600	49.9	mg/kg	11.11.2020 15:23		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 11.11.2020 11:00 % Moisture:
 Seq Number: 3142042 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.11.2020 20:12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.11.2020 20:12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.11.2020 20:12	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	11.11.2020 20:12	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.11.2020 20:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	11.11.2020 20:12	
o-Terphenyl	84-15-1	114	%	70-135	11.11.2020 20:12	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH09**
Lab Sample Id: 677445-011

Matrix: Soil
Date Collected: 11.10.2020 15:10

Date Received: 11.10.2020 16:55
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 09:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142036

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	11.11.2020 19:38	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	11.11.2020 19:38	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	11.11.2020 19:38	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	11.11.2020 19:38	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	11.11.2020 19:38	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	11.11.2020 19:38	U	1
Total BTEX		<0.00199	0.00199	mg/kg	11.11.2020 19:38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	107	%	70-130	11.11.2020 19:38		
1,4-Difluorobenzene	540-36-3	104	%	70-130	11.11.2020 19:38		



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JRU 21 SWD Riser

Sample Id: **BH09 A** Matrix: Soil Date Received: 11.10.2020 16:55
 Lab Sample Id: 677445-012 Date Collected: 11.10.2020 12:08 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.11.2020 13:14 % Moisture:
 Seq Number: 3142040 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3800	50.1	mg/kg	11.11.2020 15:40		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 11.11.2020 11:00 % Moisture:
 Seq Number: 3142042 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	11.11.2020 20:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	11.11.2020 20:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	11.11.2020 20:33	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	11.11.2020 20:33	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	11.11.2020 20:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	11.11.2020 20:33	
o-Terphenyl	84-15-1	98	%	70-135	11.11.2020 20:33	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH09 A**
Lab Sample Id: 677445-012

Matrix: Soil
Date Collected: 11.10.2020 12:08

Date Received: 11.10.2020 16:55
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 09:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142036

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.11.2020 20:01	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.11.2020 20:01	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.11.2020 20:01	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.11.2020 20:01	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.11.2020 20:01	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.11.2020 20:01	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.11.2020 20:01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	11.11.2020 20:01		
1,4-Difluorobenzene	540-36-3	103	%	70-130	11.11.2020 20:01		



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JRU 21 SWD Riser

Sample Id: **BH10** Matrix: Soil Date Received: 11.10.2020 16:55
 Lab Sample Id: 677445-013 Date Collected: 11.10.2020 15:14 Sample Depth: 1 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.11.2020 13:14 % Moisture:
 Seq Number: 3142040 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	88.4	9.96	mg/kg	11.11.2020 15:45		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 11.11.2020 11:00 % Moisture:
 Seq Number: 3142042 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.11.2020 20:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	11.11.2020 20:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.11.2020 20:53	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	11.11.2020 20:53	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	11.11.2020 20:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	11.11.2020 20:53	
o-Terphenyl	84-15-1	106	%	70-135	11.11.2020 20:53	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH10**
Lab Sample Id: 677445-013

Matrix: Soil
Date Collected: 11.10.2020 15:14

Date Received: 11.10.2020 16:55
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 14:32

% Moisture:
Basis: Wet Weight

Seq Number: 3142038

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.11.2020 14:54	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.11.2020 14:54	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.11.2020 14:54	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.11.2020 14:54	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.11.2020 14:54	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.11.2020 14:54	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.11.2020 14:54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	106	%	70-130	11.11.2020 14:54		
4-Bromofluorobenzene	460-00-4	119	%	70-130	11.11.2020 14:54		



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH10 A**
Lab Sample Id: 677445-014

Matrix: Soil
Date Collected: 11.10.2020 12:23

Date Received: 11.10.2020 16:55
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 13:14

% Moisture:
Basis: Wet Weight

Seq Number: 3142040

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	48.1	9.98	mg/kg	11.11.2020 16:02		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 11.11.2020 11:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142042

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.11.2020 21:13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	11.11.2020 21:13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.11.2020 21:13	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	11.11.2020 21:13	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	11.11.2020 21:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	121	%	70-135	11.11.2020 21:13	
o-Terphenyl	84-15-1	104	%	70-135	11.11.2020 21:13	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH10 A**
Lab Sample Id: 677445-014

Matrix: Soil
Date Collected: 11.10.2020 12:23

Date Received: 11.10.2020 16:55
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 14:32

% Moisture:
Basis: Wet Weight

Seq Number: 3142038

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.11.2020 15:17	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.11.2020 15:17	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.11.2020 15:17	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	11.11.2020 15:17	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.11.2020 15:17	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.11.2020 15:17	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.11.2020 15:17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	114	%	70-130	11.11.2020 15:17		
1,4-Difluorobenzene	540-36-3	105	%	70-130	11.11.2020 15:17		



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH11** Matrix: Soil Date Received: 11.10.2020 16:55
 Lab Sample Id: 677445-015 Date Collected: 11.10.2020 13:56 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.11.2020 13:14 % Moisture:
 Seq Number: 3142040 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.4	9.98	mg/kg	11.11.2020 16:07		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 11.11.2020 11:00 % Moisture:
 Seq Number: 3142042 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.11.2020 21:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.11.2020 21:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.11.2020 21:33	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	11.11.2020 21:33	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.11.2020 21:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	11.11.2020 21:33	
o-Terphenyl	84-15-1	106	%	70-135	11.11.2020 21:33	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH11**
Lab Sample Id: 677445-015

Matrix: Soil
Date Collected: 11.10.2020 13:56

Date Received: 11.10.2020 16:55
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 14:32

% Moisture:
Basis: Wet Weight

Seq Number: 3142038

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	11.11.2020 15:39	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	11.11.2020 15:39	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	11.11.2020 15:39	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	11.11.2020 15:39	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	11.11.2020 15:39	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	11.11.2020 15:39	U	1
Total BTEX		<0.00198	0.00198	mg/kg	11.11.2020 15:39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	97	%	70-130	11.11.2020 15:39		
4-Bromofluorobenzene	460-00-4	106	%	70-130	11.11.2020 15:39		



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH12** Matrix: Soil Date Received: 11.10.2020 16:55
 Lab Sample Id: 677445-016 Date Collected: 11.10.2020 14:00 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.11.2020 13:14 % Moisture:
 Seq Number: 3142040 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	11.11.2020 16:13	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 11.11.2020 11:00 % Moisture:
 Seq Number: 3142042 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	11.11.2020 21:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	11.11.2020 21:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	11.11.2020 21:53	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	11.11.2020 21:53	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	11.11.2020 21:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	127	%	70-135	11.11.2020 21:53	
o-Terphenyl	84-15-1	98	%	70-135	11.11.2020 21:53	



Certificate of Analytical Results 677445

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH12**
Lab Sample Id: 677445-016

Matrix: Soil
Date Collected: 11.10.2020 14:00

Date Received: 11.10.2020 16:55
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 14:32

% Moisture:
Basis: Wet Weight

Seq Number: 3142038

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.11.2020 16:01	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.11.2020 16:01	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.11.2020 16:01	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	11.11.2020 16:01	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.11.2020 16:01	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.11.2020 16:01	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.11.2020 16:01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	11.11.2020 16:01		
1,4-Difluorobenzene	540-36-3	86	%	70-130	11.11.2020 16:01		



Certificate of Analytical Results 677445

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH13**
Lab Sample Id: 677445-017

Matrix: Soil
Date Collected: 11.10.2020 15:17

Date Received: 11.10.2020 16:55
Sample Depth: 1 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 13:14

% Moisture:
Basis: Wet Weight

Seq Number: 3142040

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.94	9.94	mg/kg	11.11.2020 16:18	U	1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 11.11.2020 11:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142042

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	11.11.2020 22:13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	11.11.2020 22:13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	11.11.2020 22:13	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	11.11.2020 22:13	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	11.11.2020 22:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	11.11.2020 22:13	
o-Terphenyl	84-15-1	104	%	70-135	11.11.2020 22:13	



Certificate of Analytical Results 677445

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH13**
Lab Sample Id: 677445-017

Matrix: Soil
Date Collected: 11.10.2020 15:17

Date Received: 11.10.2020 16:55
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 14:32

% Moisture:
Basis: Wet Weight

Seq Number: 3142038

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	11.11.2020 16:24	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	11.11.2020 16:24	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	11.11.2020 16:24	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	11.11.2020 16:24	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	11.11.2020 16:24	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	11.11.2020 16:24	U	1
Total BTEX		<0.00202	0.00202	mg/kg	11.11.2020 16:24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	105	%	70-130	11.11.2020 16:24		
1,4-Difluorobenzene	540-36-3	98	%	70-130	11.11.2020 16:24		



Certificate of Analytical Results 677445

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH13 A**
Lab Sample Id: 677445-018

Matrix: Soil
Date Collected: 11.10.2020 14:27

Date Received: 11.10.2020 16:55
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 13:14

% Moisture:
Basis: Wet Weight

Seq Number: 3142040

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.6	10.0	mg/kg	11.11.2020 16:24		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 11.11.2020 11:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142042

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.11.2020 22:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	11.11.2020 22:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.11.2020 22:33	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	11.11.2020 22:33	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	11.11.2020 22:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	11.11.2020 22:33	
o-Terphenyl	84-15-1	116	%	70-135	11.11.2020 22:33	



Certificate of Analytical Results 677445

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH13 A**
Lab Sample Id: 677445-018

Matrix: Soil
Date Collected: 11.10.2020 14:27

Date Received: 11.10.2020 16:55
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 14:32

% Moisture:
Basis: Wet Weight

Seq Number: 3142038

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	11.11.2020 16:46	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	11.11.2020 16:46	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	11.11.2020 16:46	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	11.11.2020 16:46	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	11.11.2020 16:46	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	11.11.2020 16:46	U	1
Total BTEX		<0.00200	0.00200	mg/kg	11.11.2020 16:46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	109	%	70-130	11.11.2020 16:46		
1,4-Difluorobenzene	540-36-3	100	%	70-130	11.11.2020 16:46		



Certificate of Analytical Results 677445

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH14** Matrix: Soil Date Received: 11.10.2020 16:55
 Lab Sample Id: 677445-019 Date Collected: 11.10.2020 15:20 Sample Depth: 1 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 11.11.2020 13:14 % Moisture:
 Seq Number: 3142040 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.1	9.98	mg/kg	11.11.2020 16:29		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 11.11.2020 11:00 % Moisture:
 Seq Number: 3142042 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	11.11.2020 22:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	11.11.2020 22:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	11.11.2020 22:53	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	11.11.2020 22:53	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	11.11.2020 22:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	11.11.2020 22:53	
o-Terphenyl	84-15-1	116	%	70-135	11.11.2020 22:53	



Certificate of Analytical Results 677445

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH14**
Lab Sample Id: 677445-019

Matrix: Soil
Date Collected: 11.10.2020 15:20

Date Received: 11.10.2020 16:55
Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 14:32

% Moisture:
Basis: Wet Weight

Seq Number: 3142038

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	11.11.2020 17:09	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	11.11.2020 17:09	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	11.11.2020 17:09	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	11.11.2020 17:09	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	11.11.2020 17:09	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	11.11.2020 17:09	U	1
Total BTEX		<0.00199	0.00199	mg/kg	11.11.2020 17:09	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	115	%	70-130	11.11.2020 17:09	
1,4-Difluorobenzene	540-36-3	100	%	70-130	11.11.2020 17:09	



Certificate of Analytical Results 677445

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH14 A**
Lab Sample Id: 677445-020

Matrix: Soil
Date Collected: 11.10.2020 14:37

Date Received: 11.10.2020 16:55
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 13:14

% Moisture:
Basis: Wet Weight

Seq Number: 3142040

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	11.11.2020 16:35	U	1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 11.11.2020 11:00

% Moisture:
Basis: Wet Weight

Seq Number: 3142042

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	11.11.2020 23:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	11.11.2020 23:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	11.11.2020 23:14	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	11.11.2020 23:14	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	11.11.2020 23:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	11.11.2020 23:14	
o-Terphenyl	84-15-1	122	%	70-135	11.11.2020 23:14	



Certificate of Analytical Results 677445

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **BH14 A**
Lab Sample Id: 677445-020

Matrix: Soil
Date Collected: 11.10.2020 14:37

Date Received: 11.10.2020 16:55
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 11.11.2020 14:32

% Moisture:
Basis: Wet Weight

Seq Number: 3142038

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	11.11.2020 17:31	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	11.11.2020 17:31	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	11.11.2020 17:31	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	11.11.2020 17:31	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	11.11.2020 17:31	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	11.11.2020 17:31	U	1
Total BTEX		<0.00198	0.00198	mg/kg	11.11.2020 17:31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	110	%	70-130	11.11.2020 17:31		
1,4-Difluorobenzene	540-36-3	101	%	70-130	11.11.2020 17:31		

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



LT Environmental, Inc.

JRU 21 SWD Riser

Analytical Method: Chloride by EPA 300

Seq Number: 3142040

MB Sample Id: 7714964-1-BLK

Matrix: Solid

LCS Sample Id: 7714964-1-BKS

Prep Method: E300P

Date Prep: 11.11.2020

LCSD Sample Id: 7714964-1-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	255	102	251	100	90-110	2	20	mg/kg	11.11.2020 13:56	

Analytical Method: Chloride by EPA 300

Seq Number: 3142040

Parent Sample Id: 677445-001

Matrix: Soil

MS Sample Id: 677445-001 S

Prep Method: E300P

Date Prep: 11.11.2020

MSD Sample Id: 677445-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	4440	203	4630	94	4630	94	90-110	0	20	mg/kg	11.11.2020 14:12	

Analytical Method: Chloride by EPA 300

Seq Number: 3142040

Parent Sample Id: 677445-011

Matrix: Soil

MS Sample Id: 677445-011 S

Prep Method: E300P

Date Prep: 11.11.2020

MSD Sample Id: 677445-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	4600	202	4810	104	4800	100	90-110	0	20	mg/kg	11.11.2020 15:29	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3142042

MB Sample Id: 7714967-1-BLK

Matrix: Solid

LCS Sample Id: 7714967-1-BKS

Prep Method: SW8015P

Date Prep: 11.11.2020

LCSD Sample Id: 7714967-1-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	1200	120	1240	124	70-135	3	35	mg/kg	11.11.2020 15:09	
Diesel Range Organics (DRO)	<50.0	1000	1150	115	1110	111	70-135	4	35	mg/kg	11.11.2020 15:09	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	129		124		113		70-135	%	11.11.2020 15:09
o-Terphenyl	125		130		117		70-135	%	11.11.2020 15:09

Analytical Method: TPH by SW8015 Mod

Seq Number: 3142042

Matrix: Solid

MB Sample Id: 7714967-1-BLK

Prep Method: SW8015P

Date Prep: 11.11.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	11.11.2020 14:49	

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

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

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

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



LT Environmental, Inc.

JRU 21 SWD Riser

Analytical Method: TPH by SW8015 Mod

Seq Number: 3142042

Parent Sample Id: 677445-001

Matrix: Soil

MS Sample Id: 677445-001 S

Prep Method: SW8015P

Date Prep: 11.11.2020

MSD Sample Id: 677445-001 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	932	93	1030	103	70-135	10	35	mg/kg	11.11.2020 16:10	
Diesel Range Organics (DRO)	<50.2	1000	992	99	1030	103	70-135	4	35	mg/kg	11.11.2020 16:10	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	130		113		70-135	%	11.11.2020 16:10
o-Terphenyl	120		90		70-135	%	11.11.2020 16:10

Analytical Method: BTEX by EPA 8021B

Seq Number: 3142036

MB Sample Id: 7714968-1-BLK

Matrix: Solid

LCS Sample Id: 7714968-1-BKS

Prep Method: SW5035A

Date Prep: 11.11.2020

LCSD Sample Id: 7714968-1-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	0.0977	98	0.0988	99	70-130	1	35	mg/kg	11.11.2020 09:57	
Toluene	<0.00200	0.100	0.0765	77	0.0780	78	70-130	2	35	mg/kg	11.11.2020 09:57	
Ethylbenzene	<0.00200	0.100	0.0963	96	0.0980	98	71-129	2	35	mg/kg	11.11.2020 09:57	
m,p-Xylenes	<0.00400	0.200	0.193	97	0.197	99	70-135	2	35	mg/kg	11.11.2020 09:57	
o-Xylene	<0.00200	0.100	0.0961	96	0.0979	98	71-133	2	35	mg/kg	11.11.2020 09:57	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		99		98		70-130	%	11.11.2020 09:57
4-Bromofluorobenzene	103		100		100		70-130	%	11.11.2020 09:57

Analytical Method: BTEX by EPA 8021B

Seq Number: 3142038

MB Sample Id: 7714969-1-BLK

Matrix: Solid

LCS Sample Id: 7714969-1-BKS

Prep Method: SW5035A

Date Prep: 11.11.2020

LCSD Sample Id: 7714969-1-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	0.0975	98	0.0933	93	70-130	4	35	mg/kg	11.11.2020 12:50	
Toluene	<0.00200	0.100	0.0927	93	0.0878	88	70-130	5	35	mg/kg	11.11.2020 12:50	
Ethylbenzene	<0.00200	0.100	0.0954	95	0.0926	93	71-129	3	35	mg/kg	11.11.2020 12:50	
m,p-Xylenes	<0.00400	0.200	0.196	98	0.187	94	70-135	5	35	mg/kg	11.11.2020 12:50	
o-Xylene	<0.00200	0.100	0.0967	97	0.0938	94	71-133	3	35	mg/kg	11.11.2020 12:50	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		99		100		70-130	%	11.11.2020 12:50
4-Bromofluorobenzene	112		108		107		70-130	%	11.11.2020 12:50

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

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

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

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



LT Environmental, Inc.

JRU 21 SWD Riser

Analytical Method: BTEX by EPA 8021B

Seq Number: 3142036

Parent Sample Id: 677374-007

Matrix: Soil

MS Sample Id: 677374-007 S

Prep Method: SW5035A

Date Prep: 11.11.2020

MSD Sample Id: 677374-007 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.0956	96	0.100	100	70-130	4	35	mg/kg	11.11.2020 10:42	
Toluene	<0.00201	0.100	0.0751	75	0.0783	78	70-130	4	35	mg/kg	11.11.2020 10:42	
Ethylbenzene	<0.00201	0.100	0.0942	94	0.0982	98	71-129	4	35	mg/kg	11.11.2020 10:42	
m,p-Xylenes	<0.00402	0.201	0.189	94	0.198	99	70-135	5	35	mg/kg	11.11.2020 10:42	
o-Xylene	<0.00201	0.100	0.0935	94	0.0977	98	71-133	4	35	mg/kg	11.11.2020 10:42	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		99		70-130	%	11.11.2020 10:42
4-Bromofluorobenzene	106		101		70-130	%	11.11.2020 10:42

Analytical Method: BTEX by EPA 8021B

Seq Number: 3142038

Parent Sample Id: 677445-013

Matrix: Soil

MS Sample Id: 677445-013 S

Prep Method: SW5035A

Date Prep: 11.11.2020

MSD Sample Id: 677445-013 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	0.107	107	0.0799	80	70-130	29	35	mg/kg	11.11.2020 13:34	
Toluene	<0.00200	0.0998	0.103	103	0.0769	77	70-130	29	35	mg/kg	11.11.2020 13:34	
Ethylbenzene	<0.00200	0.0998	0.106	106	0.0778	78	71-129	31	35	mg/kg	11.11.2020 13:34	
m,p-Xylenes	<0.00399	0.200	0.218	109	0.159	80	70-135	31	35	mg/kg	11.11.2020 13:34	
o-Xylene	<0.00200	0.0998	0.109	109	0.0778	78	71-133	33	35	mg/kg	11.11.2020 13:34	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		99		70-130	%	11.11.2020 13:34
4-Bromofluorobenzene	108		112		70-130	%	11.11.2020 13:34

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

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

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

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



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

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Page 1 of 2

Chain of Custody

Work Order No: 1677445

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littlell
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, Tacoma.Morrissey@wsp.com, Dan.Moir@wsp.com

Project Name:	JRU 21 SWD Riser	Turn Around	
Project Number:	TE012920074	Routine	☒
P.O. Number:		Rush:	
Sampler's Name:	Spencer Lo	Due Date:	

SAMPLE RECEIPT	Temp Blank:	Yes ☒ No ☐	Wet Ice:	Yes ☒ No ☐
	Temperature (°C):	1.6/1.4	Thermometer ID	1-WM-007
	Received In tact:	Yes ☒ No ☐	Correction Factor:	-0.2
	Cooler Custody Seals:	Yes ☒ No ☐	Total Containers:	20
	Sample Custody Seals:	Yes ☒ No ☐		

Sample Identification					Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EPA 8015)	BTEX (EPA 8015)	Chloride (EPA 8015)	Sample Comments									
BH01					S	11/10/2020	940	4'	1	X	X	X										
BH01A					S	11/10/2020	1323	8'	1	X	X	X										
BH02					S	11/10/2020	1007	2'	1	X	X	X										
BH03					S	11/10/2020	1026	2'	1	X	X	X										
BH04					S	11/10/2020	1043	2.5'	1	X	X	X										
BH05					S	11/10/2020	1058	2.5'	1	X	X	X										
BH06					S	11/10/2020	1510	1'	1	X	X	X										
BH06A					S	11/10/2020	1120	2'	1	X	X	X										
BH07					S	11/10/2020	1131	2'	1	X	X	X										
BH08					S	11/10/2020	1150	2'	1	X	X	X										

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Fe Pb Mg Mn Mo Ni K Se Ag SiO2 Na Sr Ti 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 Ti 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
		11-10-20 1652			



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 (813-520-2000)

Chain of Custody

Work Order No: 1637445

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, Tacoma.Morrissey@wsp.com, Dan.Moir@wsp.com
Project Name:	JRU 21 SWD Riser	Turn Around	
Project Number:	TE012920074	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	See Page 1				
Received Intact:	Yes	No					
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	TPH (EPA)	BTEX (EPA)	Chlorides	Sample Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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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 Ti 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 Ti 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
		11-10-20 1655			

Certificate of Analysis Summary 679466



LT Environmental, Inc., Arvada, CO

Project Name: JRU 21 SWD Riser

Project Id: TE012920074
Contact: Tacoma Morrissey
Project Location:

Date Received in Lab: Wed 12.02.2020 08:50
Report Date: 12.07.2020 08:27
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	679466-001	679466-002	679466-003			
	Field Id:	SW01	SW02	SW03			
	Depth:	0-4 ft	0-4 ft	0-4 ft			
	Matrix:	SOIL	SOIL	SOIL			
	Sampled:	12.01.2020 12:53	12.01.2020 13:13	12.01.2020 10:33			
BTEX by EPA 8021B	Extracted:	12.02.2020 13:15	12.02.2020 13:15	12.02.2020 13:15			
	Analyzed:	12.03.2020 00:33	12.03.2020 00:56	12.03.2020 01:18			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Benzene		<0.00202 0.00202	<0.00198 0.00198	<0.00198 0.00198			
Toluene		<0.00202 0.00202	<0.00198 0.00198	<0.00198 0.00198			
Ethylbenzene		<0.00202 0.00202	<0.00198 0.00198	<0.00198 0.00198			
m,p-Xylenes		<0.00404 0.00404	<0.00397 0.00397	<0.00397 0.00397			
o-Xylene		<0.00202 0.00202	<0.00198 0.00198	<0.00198 0.00198			
Total Xylenes		<0.002020 0.002020	<0.001980 0.001980	<0.001980 0.001980			
Total BTEX		<0.002020 0.002020	<0.001980 0.001980	<0.001980 0.001980			
Chloride by EPA 300	Extracted:	12.02.2020 18:09	12.02.2020 18:09	12.02.2020 18:09			
	Analyzed:	12.03.2020 19:25	12.03.2020 19:31	12.03.2020 19:38			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Chloride		384 10.1	18.2 9.98	<9.98 9.98			
TPH by SW8015 Mod	Extracted:	12.02.2020 16:00	12.02.2020 16:00	12.02.2020 16:00			
	Analyzed:	12.03.2020 01:01	12.03.2020 01:21	12.03.2020 01:40			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
Gasoline Range Hydrocarbons (GRO)		<49.9 49.9	<50.0 50.0	<49.8 49.8			
Diesel Range Organics (DRO)		<49.9 49.9	<50.0 50.0	<49.8 49.8			
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<50.0 50.0	<49.8 49.8			
Total GRO-DRO		<49.90 49.90	<50.00 50.00	<49.80 49.80			
Total TPH		<49.90 49.90	<50.00 50.00	<49.80 49.80			

BRL - Below Reporting Limit

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



Analytical Report 679466

for

LT Environmental, Inc.

Project Manager: Tacoma Morrissey

JRU 21 SWD Riser

TE012920074

12.07.2020

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: TN102385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



12.07.2020

Project Manager: **Tacoma Morrissey**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: Eurofins Xenco, LLC Report No(s): **679466**

JRU 21 SWD Riser

Project Address:

Tacoma Morrissey:

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) 679466. 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. 679466 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,

A handwritten signature in black ink that reads "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



Sample Cross Reference 679466

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW01	S	12.01.2020 12:53	0 - 4 ft	679466-001
SW02	S	12.01.2020 13:13	0 - 4 ft	679466-002
SW03	S	12.01.2020 10:33	0 - 4 ft	679466-003



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: JRU 21 SWD Riser

Project ID: TE012920074
Work Order Number(s): 679466

Report Date: 12.07.2020
Date Received: 12.02.2020

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 679466

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SW01** Matrix: Soil Date Received: 12.02.2020 08:50
 Lab Sample Id: 679466-001 Date Collected: 12.01.2020 12:53 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.02.2020 18:09 % Moisture:
 Seq Number: 3143893 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	384	10.1	mg/kg	12.03.2020 19:25		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.02.2020 16:00 % Moisture:
 Seq Number: 3143799 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.03.2020 01:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.03.2020 01:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.03.2020 01:01	U	1
Total GRO-DRO	PHC628	<49.90	49.90	mg/kg	12.03.2020 01:01	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.03.2020 01:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	12.03.2020 01:01	
o-Terphenyl	84-15-1	113	%	70-135	12.03.2020 01:01	



Certificate of Analytical Results 679466

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SW01**
Lab Sample Id: 679466-001

Matrix: Soil
Date Collected: 12.01.2020 12:53

Date Received: 12.02.2020 08:50
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.02.2020 13:15

% Moisture:
Basis: Wet Weight

Seq Number: 3143773

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.03.2020 00:33	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.03.2020 00:33	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.03.2020 00:33	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.03.2020 00:33	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.03.2020 00:33	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.03.2020 00:33	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.03.2020 00:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.03.2020 00:33	
4-Bromofluorobenzene	460-00-4	110	%	70-130	12.03.2020 00:33	



Certificate of Analytical Results 679466

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SW02** Matrix: Soil Date Received: 12.02.2020 08:50
 Lab Sample Id: 679466-002 Date Collected: 12.01.2020 13:13 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.02.2020 18:09 % Moisture:
 Seq Number: 3143893 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	18.2	9.98	mg/kg	12.03.2020 19:31		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.02.2020 16:00 % Moisture:
 Seq Number: 3143799 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.03.2020 01:21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.03.2020 01:21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.03.2020 01:21	U	1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.03.2020 01:21	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.03.2020 01:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	12.03.2020 01:21	
o-Terphenyl	84-15-1	109	%	70-135	12.03.2020 01:21	



Certificate of Analytical Results 679466

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SW02**
Lab Sample Id: 679466-002

Matrix: Soil
Date Collected: 12.01.2020 13:13

Date Received: 12.02.2020 08:50
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.02.2020 13:15

% Moisture:
Basis: Wet Weight

Seq Number: 3143773

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.03.2020 00:56	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.03.2020 00:56	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.03.2020 00:56	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.03.2020 00:56	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.03.2020 00:56	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.03.2020 00:56	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.03.2020 00:56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	70-130	12.03.2020 00:56		
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.03.2020 00:56		



Certificate of Analytical Results 679466

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SW03** Matrix: Soil Date Received: 12.02.2020 08:50
 Lab Sample Id: 679466-003 Date Collected: 12.01.2020 10:33 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.02.2020 18:09 % Moisture:
 Seq Number: 3143893 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	12.03.2020 19:38	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.02.2020 16:00 % Moisture:
 Seq Number: 3143799 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.03.2020 01:40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.03.2020 01:40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.03.2020 01:40	U	1
Total GRO-DRO	PHC628	<49.80	49.80	mg/kg	12.03.2020 01:40	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	12.03.2020 01:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.03.2020 01:40	
o-Terphenyl	84-15-1	106	%	70-135	12.03.2020 01:40	



Certificate of Analytical Results 679466

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SW03**
Lab Sample Id: 679466-003

Matrix: Soil
Date Collected: 12.01.2020 10:33

Date Received: 12.02.2020 08:50
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.02.2020 13:15

% Moisture:
Basis: Wet Weight

Seq Number: 3143773

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.03.2020 01:18	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.03.2020 01:18	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.03.2020 01:18	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.03.2020 01:18	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.03.2020 01:18	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.03.2020 01:18	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.03.2020 01:18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	98	%	70-130	12.03.2020 01:18		
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.03.2020 01:18		

Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

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

RL Reporting Limit

MDL Method Detection Limit **SDL** Sample 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



LT Environmental, Inc.

JRU 21 SWD Riser

Analytical Method: Chloride by EPA 300

Seq Number: 3143893

MB Sample Id: 7716287-1-BLK

Matrix: Solid

LCS Sample Id: 7716287-1-BKS

Prep Method: E300P

Date Prep: 12.02.2020

LCSD Sample Id: 7716287-1-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	257	103	257	103	90-110	0	20	mg/kg	12.03.2020 16:57	

Analytical Method: Chloride by EPA 300

Seq Number: 3143893

Parent Sample Id: 679462-021

Matrix: Soil

MS Sample Id: 679462-021 S

Prep Method: E300P

Date Prep: 12.02.2020

MSD Sample Id: 679462-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	13.8	201	211	98	212	99	90-110	0	20	mg/kg	12.03.2020 17:16	

Analytical Method: Chloride by EPA 300

Seq Number: 3143893

Parent Sample Id: 679462-031

Matrix: Soil

MS Sample Id: 679462-031 S

Prep Method: E300P

Date Prep: 12.02.2020

MSD Sample Id: 679462-031 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	113	200	314	101	324	105	90-110	3	20	mg/kg	12.03.2020 18:42	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3143799

MB Sample Id: 7716294-1-BLK

Matrix: Solid

LCS Sample Id: 7716294-1-BKS

Prep Method: SW8015P

Date Prep: 12.02.2020

LCSD Sample Id: 7716294-1-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	1130	113	1010	101	70-135	11	35	mg/kg	12.02.2020 18:43	
Diesel Range Organics (DRO)	<50.0	1000	1060	106	1160	116	70-135	9	35	mg/kg	12.02.2020 18:43	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	118		100		108		70-135	%	12.02.2020 18:43
o-Terphenyl	114		95		112		70-135	%	12.02.2020 18:43

Analytical Method: TPH by SW8015 Mod

Seq Number: 3143799

Matrix: Solid

MB Sample Id: 7716294-1-BLK

Prep Method: SW8015P

Date Prep: 12.02.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.02.2020 18:23	

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

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

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

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



LT Environmental, Inc.

JRU 21 SWD Riser

Analytical Method: TPH by SW8015 Mod

Seq Number: 3143799

Parent Sample Id: 679462-021

Matrix: Soil

MS Sample Id: 679462-021 S

Prep Method: SW8015P

Date Prep: 12.02.2020

MSD Sample Id: 679462-021 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)	<50.3	1010	1210	120	1070	107	70-135	12	35	mg/kg	12.02.2020 19:42	
Diesel Range Organics (DRO)	<50.3	1010	1060	105	1120	112	70-135	6	35	mg/kg	12.02.2020 19:42	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		114		70-135	%	12.02.2020 19:42
o-Terphenyl	103		109		70-135	%	12.02.2020 19:42

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143773

MB Sample Id: 7716291-1-BLK

Matrix: Solid

LCS Sample Id: 7716291-1-BKS

Prep Method: SW5035A

Date Prep: 12.02.2020

LCSD Sample Id: 7716291-1-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	12.02.2020 16:22	
Toluene	<0.00200	0.100	0.0962	96	0.0989	99	70-130	3	35	mg/kg	12.02.2020 16:22	
Ethylbenzene	<0.00200	0.100	0.0891	89	0.0924	92	71-129	4	35	mg/kg	12.02.2020 16:22	
m,p-Xylenes	<0.00400	0.200	0.182	91	0.189	95	70-135	4	35	mg/kg	12.02.2020 16:22	
o-Xylene	<0.00200	0.100	0.0901	90	0.0929	93	71-133	3	35	mg/kg	12.02.2020 16:22	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		99		99		70-130	%	12.02.2020 16:22
4-Bromofluorobenzene	90		87		88		70-130	%	12.02.2020 16:22

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143773

Parent Sample Id: 679462-021

Matrix: Soil

MS Sample Id: 679462-021 S

Prep Method: SW5035A

Date Prep: 12.02.2020

MSD Sample Id: 679462-021 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	0.106	106	0.114	114	70-130	7	35	mg/kg	12.02.2020 17:06	
Toluene	<0.00200	0.100	0.103	103	0.110	110	70-130	7	35	mg/kg	12.02.2020 17:06	
Ethylbenzene	<0.00200	0.100	0.0954	95	0.104	104	71-129	9	35	mg/kg	12.02.2020 17:06	
m,p-Xylenes	<0.00401	0.200	0.195	98	0.212	106	70-135	8	35	mg/kg	12.02.2020 17:06	
o-Xylene	<0.00200	0.100	0.0960	96	0.104	104	71-133	8	35	mg/kg	12.02.2020 17:06	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		98		70-130	%	12.02.2020 17:06
4-Bromofluorobenzene	90		86		70-130	%	12.02.2020 17:06

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

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

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

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

Work Order No: 60794666

Page 1 of 1

Work Order Comments	
Program: UST/PST	☐ RP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:	NM
Reporting Level II	☐ Level III ☐ ST/UST ☐ RRP ☐ Level IV ☐
Deliverables: EDD	☐ ADAPT ☐ Other:

[illegible][illegible][illegible][illegible]

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		12/21/20 8:30AM			12-2-20 0850

Certificate of Analysis Summary 679616



LT Environmental, Inc., Arvada, CO

Project Name: JRU 21 SWD Riser

Project Id: TE012920074

Date Received in Lab: Wed 12.02.2020 16:50

Contact: Dan Moir

Report Date: 12.07.2020 09:59

Project Location:

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	679616-001	679616-002	679616-003	679616-004	679616-005	
	Field Id:	SW04	SW05	SW06	FS06	FS07	
	Depth:	0-4 ft	0-4 ft	0-4 ft	2- ft	2- ft	
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	
	Sampled:	12.02.2020 07:40	12.02.2020 07:43	12.02.2020 09:48	12.02.2020 10:40	12.02.2020 10:43	
BTEX by EPA 8021B	Extracted:	12.03.2020 17:00	12.03.2020 17:00	12.03.2020 17:00	12.03.2020 17:00	12.03.2020 17:00	
	Analyzed:	12.03.2020 20:02	12.03.2020 20:24	12.03.2020 20:47	12.03.2020 21:09	12.03.2020 21:31	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00198 0.00198	
Toluene		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00198 0.00198	
Ethylbenzene		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00198 0.00198	
m,p-Xylenes		<0.00397 0.00397	<0.00398 0.00398	<0.00398 0.00398	<0.00397 0.00397	<0.00396 0.00396	
o-Xylene		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00198 0.00198	<0.00198 0.00198	
Total Xylenes		<0.001980 0.001980	<0.001990 0.001990	<0.001990 0.001990	<0.001980 0.001980	<0.001980 0.001980	
Total BTEX		<0.001980 0.001980	<0.001990 0.001990	<0.001990 0.001990	<0.001980 0.001980	<0.001980 0.001980	
Chloride by EPA 300	Extracted:	12.03.2020 17:00	12.03.2020 17:00	12.03.2020 17:00	12.03.2020 17:00	12.03.2020 17:00	
	Analyzed:	12.03.2020 22:55	12.03.2020 23:14	12.03.2020 23:20	12.03.2020 23:26	12.03.2020 23:32	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		150 9.96	<10.0 10.0	27.3 10.1	13.4 9.98	17.3 9.98	
TPH by SW8015 Mod	Extracted:	12.03.2020 17:00	12.03.2020 17:00	12.03.2020 17:00	12.03.2020 17:00	12.03.2020 17:00	
	Analyzed:	12.03.2020 21:31	12.03.2020 21:51	12.03.2020 22:11	12.03.2020 22:31	12.03.2020 22:51	
	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	<50.1 50.1	<49.9 49.9	<49.8 49.8	<50.0 50.0	
Diesel Range Organics (DRO)		<49.9 49.9	<50.1 50.1	<49.9 49.9	<49.8 49.8	<50.0 50.0	
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<50.1 50.1	<49.9 49.9	<49.8 49.8	<50.0 50.0	
Total GRO-DRO		<49.90 49.90	<50.10 50.10	<49.90 49.90	<49.80 49.80	<50.00 50.00	
Total TPH		<49.90 49.90	<50.10 50.10	<49.90 49.90	<49.80 49.80	<50.00 50.00	

BRL - Below Reporting Limit

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



Analytical Report 679616

for

LT Environmental, Inc.

Project Manager: Dan Moir

JRU 21 SWD Riser

TE012920074

12.07.2020

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: TN102385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



12.07.2020

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: Eurofins Xenco, LLC Report No(s): **679616**

JRU 21 SWD Riser

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) 679616. 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. 679616 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,

A handwritten signature in black ink that reads "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

**Sample Cross Reference 679616****LT Environmental, Inc., Arvada, CO**

JRU 21 SWD Riser

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW04	S	12.02.2020 07:40	0 - 4 ft	679616-001
SW05	S	12.02.2020 07:43	0 - 4 ft	679616-002
SW06	S	12.02.2020 09:48	0 - 4 ft	679616-003
FS06	S	12.02.2020 10:40	2 ft	679616-004
FS07	S	12.02.2020 10:43	2 ft	679616-005



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *JRU 21 SWD Riser*

Project ID: *TE012920074*
Work Order Number(s): *679616*

Report Date: *12.07.2020*
Date Received: *12.02.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 679616

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SW04** Matrix: Soil Date Received: 12.02.2020 16:50
 Lab Sample Id: 679616-001 Date Collected: 12.02.2020 07:40 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.03.2020 17:00 % Moisture:
 Seq Number: 3143897 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	150	9.96	mg/kg	12.03.2020 22:55		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.03.2020 17:00 % Moisture:
 Seq Number: 3143891 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.03.2020 21:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.03.2020 21:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.03.2020 21:31	U	1
Total GRO-DRO	PHC628	<49.90	49.90	mg/kg	12.03.2020 21:31	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.03.2020 21:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	111	%	70-135	12.03.2020 21:31	
o-Terphenyl	84-15-1	113	%	70-135	12.03.2020 21:31	



Certificate of Analytical Results 679616

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SW04**
Lab Sample Id: 679616-001

Matrix: Soil
Date Collected: 12.02.2020 07:40

Date Received: 12.02.2020 16:50
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.03.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3143889

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.03.2020 20:02	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.03.2020 20:02	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.03.2020 20:02	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.03.2020 20:02	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.03.2020 20:02	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.03.2020 20:02	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.03.2020 20:02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.03.2020 20:02	
4-Bromofluorobenzene	460-00-4	89	%	70-130	12.03.2020 20:02	



Certificate of Analytical Results 679616

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SW05** Matrix: Soil Date Received: 12.02.2020 16:50
 Lab Sample Id: 679616-002 Date Collected: 12.02.2020 07:43 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.03.2020 17:00 % Moisture:
 Seq Number: 3143897 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<10.0	10.0	mg/kg	12.03.2020 23:14	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.03.2020 17:00 % Moisture:
 Seq Number: 3143891 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.03.2020 21:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.03.2020 21:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.03.2020 21:51	U	1
Total GRO-DRO	PHC628	<50.10	50.10	mg/kg	12.03.2020 21:51	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.03.2020 21:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	126	%	70-135	12.03.2020 21:51	
o-Terphenyl	84-15-1	106	%	70-135	12.03.2020 21:51	



Certificate of Analytical Results 679616

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SW05**
Lab Sample Id: 679616-002

Matrix: Soil
Date Collected: 12.02.2020 07:43

Date Received: 12.02.2020 16:50
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.03.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3143889

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.03.2020 20:24	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.03.2020 20:24	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.03.2020 20:24	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.03.2020 20:24	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.03.2020 20:24	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.03.2020 20:24	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.03.2020 20:24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.03.2020 20:24		
4-Bromofluorobenzene	460-00-4	91	%	70-130	12.03.2020 20:24		



Certificate of Analytical Results 679616

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SW06** Matrix: Soil Date Received: 12.02.2020 16:50
 Lab Sample Id: 679616-003 Date Collected: 12.02.2020 09:48 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.03.2020 17:00 % Moisture:
 Seq Number: 3143897 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	27.3	10.1	mg/kg	12.03.2020 23:20		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.03.2020 17:00 % Moisture:
 Seq Number: 3143891 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.03.2020 22:11	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.03.2020 22:11	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.03.2020 22:11	U	1
Total GRO-DRO	PHC628	<49.90	49.90	mg/kg	12.03.2020 22:11	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.03.2020 22:11	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	12.03.2020 22:11	
o-Terphenyl	84-15-1	104	%	70-135	12.03.2020 22:11	



Certificate of Analytical Results 679616

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SW06**
Lab Sample Id: 679616-003

Matrix: Soil
Date Collected: 12.02.2020 09:48

Date Received: 12.02.2020 16:50
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.03.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3143889

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.03.2020 20:47	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.03.2020 20:47	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.03.2020 20:47	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.03.2020 20:47	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.03.2020 20:47	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.03.2020 20:47	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.03.2020 20:47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.03.2020 20:47		
4-Bromofluorobenzene	460-00-4	93	%	70-130	12.03.2020 20:47		



Certificate of Analytical Results 679616

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS06** Matrix: Soil Date Received: 12.02.2020 16:50
 Lab Sample Id: 679616-004 Date Collected: 12.02.2020 10:40 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.03.2020 17:00 % Moisture:
 Seq Number: 3143897 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.4	9.98	mg/kg	12.03.2020 23:26		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.03.2020 17:00 % Moisture:
 Seq Number: 3143891 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.03.2020 22:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.03.2020 22:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.03.2020 22:31	U	1
Total GRO-DRO	PHC628	<49.80	49.80	mg/kg	12.03.2020 22:31	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	12.03.2020 22:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	12.03.2020 22:31	
o-Terphenyl	84-15-1	93	%	70-135	12.03.2020 22:31	



Certificate of Analytical Results 679616

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS06**
Lab Sample Id: 679616-004

Matrix: Soil
Date Collected: 12.02.2020 10:40

Date Received: 12.02.2020 16:50
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.03.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3143889

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.03.2020 21:09	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.03.2020 21:09	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.03.2020 21:09	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.03.2020 21:09	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.03.2020 21:09	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.03.2020 21:09	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.03.2020 21:09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	90	%	70-130	12.03.2020 21:09		
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.03.2020 21:09		



Certificate of Analytical Results 679616

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS07** Matrix: Soil Date Received: 12.02.2020 16:50
 Lab Sample Id: 679616-005 Date Collected: 12.02.2020 10:43 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.03.2020 17:00 % Moisture:
 Seq Number: 3143897 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	17.3	9.98	mg/kg	12.03.2020 23:32		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: MAB
 Analyst: CAC Date Prep: 12.03.2020 17:00 % Moisture:
 Seq Number: 3143891 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.03.2020 22:51	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.03.2020 22:51	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.03.2020 22:51	U	1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.03.2020 22:51	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.03.2020 22:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	12.03.2020 22:51	
o-Terphenyl	84-15-1	115	%	70-135	12.03.2020 22:51	



Certificate of Analytical Results 679616

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS07**
Lab Sample Id: 679616-005

Matrix: Soil
Date Collected: 12.02.2020 10:43

Date Received: 12.02.2020 16:50
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.03.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3143889

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.03.2020 21:31	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.03.2020 21:31	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.03.2020 21:31	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.03.2020 21:31	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.03.2020 21:31	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.03.2020 21:31	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.03.2020 21:31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.03.2020 21:31		
4-Bromofluorobenzene	460-00-4	92	%	70-130	12.03.2020 21:31		

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



LT Environmental, Inc.

JRU 21 SWD Riser

Analytical Method: Chloride by EPA 300

Seq Number: 3143897

MB Sample Id: 7716399-1-BLK

Matrix: Solid

LCS Sample Id: 7716399-1-BKS

Prep Method: E300P

Date Prep: 12.03.2020

LCSD Sample Id: 7716399-1-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	257	103	256	102	90-110	0	20	mg/kg	12.03.2020 22:43	

Analytical Method: Chloride by EPA 300

Seq Number: 3143897

Parent Sample Id: 679616-001

Matrix: Soil

MS Sample Id: 679616-001 S

Prep Method: E300P

Date Prep: 12.03.2020

MSD Sample Id: 679616-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	150	202	361	104	358	103	90-110	1	20	mg/kg	12.03.2020 23:01	

Analytical Method: Chloride by EPA 300

Seq Number: 3143897

Parent Sample Id: 679764-003

Matrix: Soil

MS Sample Id: 679764-003 S

Prep Method: E300P

Date Prep: 12.03.2020

MSD Sample Id: 679764-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	28.4	202	230	100	227	99	90-110	1	20	mg/kg	12.04.2020 01:42	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3143891

MB Sample Id: 7716400-1-BLK

Matrix: Solid

LCS Sample Id: 7716400-1-BKS

Prep Method: SW8015P

Date Prep: 12.03.2020

LCSD Sample Id: 7716400-1-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	894	89	933	93	70-135	4	35	mg/kg	12.03.2020 19:12	
Diesel Range Organics (DRO)	<50.0	1000	1140	114	1150	115	70-135	1	35	mg/kg	12.03.2020 19:12	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	131		121		115		70-135	%	12.03.2020 19:12
o-Terphenyl	121		109		113		70-135	%	12.03.2020 19:12

Analytical Method: TPH by SW8015 Mod

Seq Number: 3143891

Matrix: Solid

MB Sample Id: 7716400-1-BLK

Prep Method: SW8015P

Date Prep: 12.03.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.03.2020 18:53	

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

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

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

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



LT Environmental, Inc.

JRU 21 SWD Riser

Analytical Method: TPH by SW8015 Mod

Seq Number: 3143891

Parent Sample Id: 679758-001

Matrix: Soil

MS Sample Id: 679758-001 S

Prep Method: SW8015P

Date Prep: 12.03.2020

MSD Sample Id: 679758-001 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)	<50.3	1010	1180	117	1100	110	70-135	7	35	mg/kg	12.03.2020 20:12	
Diesel Range Organics (DRO)	<50.3	1010	1090	108	990	99	70-135	10	35	mg/kg	12.03.2020 20:12	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	103		114		70-135	%	12.03.2020 20:12
o-Terphenyl	113		107		70-135	%	12.03.2020 20:12

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143889

MB Sample Id: 7716397-1-BLK

Matrix: Solid

LCS Sample Id: 7716397-1-BKS

Prep Method: SW5035A

Date Prep: 12.03.2020

LCSD Sample Id: 7716397-1-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	0.0986	99	0.0934	93	70-130	5	35	mg/kg	12.03.2020 17:59	
Toluene	<0.00200	0.100	0.0949	95	0.0891	89	70-130	6	35	mg/kg	12.03.2020 17:59	
Ethylbenzene	<0.00200	0.100	0.0878	88	0.0819	82	71-129	7	35	mg/kg	12.03.2020 17:59	
m,p-Xylenes	<0.00400	0.200	0.179	90	0.165	83	70-135	8	35	mg/kg	12.03.2020 17:59	
o-Xylene	<0.00200	0.100	0.0889	89	0.0816	82	71-133	9	35	mg/kg	12.03.2020 17:59	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		96		93		70-130	%	12.03.2020 17:59
4-Bromofluorobenzene	90		87		80		70-130	%	12.03.2020 17:59

Analytical Method: BTEX by EPA 8021B

Seq Number: 3143889

Parent Sample Id: 679616-001

Matrix: Soil

MS Sample Id: 679616-001 S

Prep Method: SW5035A

Date Prep: 12.03.2020

MSD Sample Id: 679616-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0883	89	0.0906	91	70-130	3	35	mg/kg	12.03.2020 18:44	
Toluene	<0.00199	0.0996	0.0853	86	0.0868	87	70-130	2	35	mg/kg	12.03.2020 18:44	
Ethylbenzene	<0.00199	0.0996	0.0795	80	0.0798	80	71-129	0	35	mg/kg	12.03.2020 18:44	
m,p-Xylenes	<0.00398	0.199	0.161	81	0.161	81	70-135	0	35	mg/kg	12.03.2020 18:44	
o-Xylene	<0.00199	0.0996	0.0781	78	0.0810	81	71-133	4	35	mg/kg	12.03.2020 18:44	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		95		70-130	%	12.03.2020 18:44
4-Bromofluorobenzene	84		83		70-130	%	12.03.2020 18:44

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

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

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

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

Work Order No: 10791016

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Work Order Comments	
Program: UST/PST	☐ PRP ☐ Brownfields ☐ RC ☐ Superfund ☐
State of Project:	NIM
Reporting Level II	☐ Level III ☐ ST/UST ☐ PRP ☐ Level IV ☐
Deliverables: EDD	☐ ADAPT ☐ Other:

[illegible]

Work Order Notes				

[illegible]

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EP)	BTEX (E)	Chloride	Sample Comments
Su07	5	12-02-00	0740	1'-4'	1	✓	✓	✓	Deposits Discrete Oligate
Su05			0743	1'-4'	1	✓	✓	✓	
Su06			0948	1'-4'	1	✓	✓	✓	
ES06			1040	2'	1	✓	✓	✓	
ES07			1043	2'	1	✓	✓	✓	

[illegible]

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
			

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 12.02.2020 04.50.00 PM

Work Order #: 679616

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
#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

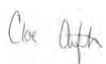
Samples received in bulk containers.

* 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: 12.02.2020

Checklist reviewed by:



Jessica Kramer

Date: 12.04.2020

Certificate of Analysis Summary 680098



LT Environmental, Inc., Arvada, CO

Project Name: JRU 21 SWD Riser

Project Id: 012920074
Contact: Dan Moir
Project Location: Eddy County, New Mexico

Date Received in Lab: Mon 12.07.2020 15:38
Report Date: 12.09.2020 15:50
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	680098-001	680098-002	680098-003	680098-004	680098-005	680098-006
	Field Id:	FS17	FS18	FS19	FS20	FS21	FS22
	Depth:	4- ft	4- ft	4- ft	4- ft	4- ft	4- ft
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Sampled:	12.07.2020 10:10	12.07.2020 12:15	12.07.2020 12:20	12.07.2020 12:25	12.07.2020 12:30	12.07.2020 13:20
BTEX by EPA 8021B	Extracted:	12.08.2020 08:03	12.08.2020 08:03	12.08.2020 08:03	12.08.2020 08:03	12.08.2020 08:03	12.08.2020 08:03
	Analyzed:	12.08.2020 17:13	12.08.2020 17:35	12.08.2020 17:57	12.08.2020 18:20	12.08.2020 18:42	12.08.2020 19:05
	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	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00397 0.00397	<0.00398 0.00398	<0.00399 0.00399	<0.00398 0.00398	<0.00401 0.00401	<0.00398 0.00398
o-Xylene		<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.001980 0.001980	<0.001990 0.001990	<0.002000 0.002000	<0.001990 0.001990	<0.002000 0.002000	<0.001990 0.001990
Total BTEX		<0.001980 0.001980	<0.001990 0.001990	<0.002000 0.002000	<0.001990 0.001990	<0.002000 0.002000	<0.001990 0.001990
Chloride by EPA 300	Extracted:	12.07.2020 17:22	12.07.2020 17:22	12.07.2020 17:22	12.07.2020 17:22	12.07.2020 17:22	12.07.2020 17:22
	Analyzed:	12.07.2020 21:33	12.07.2020 21:39	12.07.2020 21:56	12.07.2020 22:01	12.07.2020 22:18	12.07.2020 22:24
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		10800 49.9	2050 49.5	4700 50.4	3360 50.1	3440 49.9	989 9.96
TPH by SW8015 Mod	Extracted:	12.07.2020 17:00	12.07.2020 17:00	12.07.2020 17:00	12.07.2020 17:00	12.07.2020 17:00	12.07.2020 17:00
	Analyzed:	12.07.2020 22:56	12.07.2020 23:16	12.07.2020 23:37	12.08.2020 00:17	12.07.2020 22:56	12.07.2020 23:16
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.8 49.8	<50.2 50.2	<50.1 50.1	<50.0 50.0	<50.2 50.2	<50.1 50.1
Diesel Range Organics (DRO)		<49.8 49.8	<50.2 50.2	<50.1 50.1	<50.0 50.0	<50.2 50.2	<50.1 50.1
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<50.2 50.2	<50.1 50.1	<50.0 50.0	<50.2 50.2	<50.1 50.1
Total GRO-DRO		<49.80 49.80	<50.20 50.20	<50.10 50.10	<50.00 50.00	<50.20 50.20	<50.10 50.10
Total TPH		<49.80 49.80	<50.20 50.20	<50.10 50.10	<50.00 50.00	<50.20 50.20	<50.10 50.10

BRL - Below Reporting Limit

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

Certificate of Analysis Summary 680098



LT Environmental, Inc., Arvada, CO

Project Name: JRU 21 SWD Riser

Project Id: 012920074
Contact: Dan Moir
Project Location: Eddy County, New Mexico

Date Received in Lab: Mon 12.07.2020 15:38
Report Date: 12.09.2020 15:50
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	680098-007	680098-008				
	Field Id:	FS23	SW07				
	Depth:	4- ft	4- ft				
	Matrix:	SOIL	SOIL				
	Sampled:	12.07.2020 14:05	12.07.2020 14:10				
BTEX by EPA 8021B	Extracted:	12.08.2020 08:03	12.08.2020 08:03				
	Analyzed:	12.08.2020 19:27	12.08.2020 19:49				
	Units/RL:	mg/kg RL	mg/kg RL				
	Benzene	<0.00202 0.00202	<0.00202 0.00202				
	Toluene	<0.00202 0.00202	<0.00202 0.00202				
	Ethylbenzene	<0.00202 0.00202	<0.00202 0.00202				
	m,p-Xylenes	<0.00403 0.00403	<0.00403 0.00403				
	o-Xylene	<0.00202 0.00202	<0.00202 0.00202				
	Total Xylenes	<0.002020 0.002020	<0.002020 0.002020				
	Total BTEX	<0.002020 0.002020	<0.002020 0.002020				
Chloride by EPA 300	Extracted:	12.07.2020 17:22	12.07.2020 17:22				
	Analyzed:	12.07.2020 22:29	12.07.2020 22:35				
	Units/RL:	mg/kg RL	mg/kg RL				
	Chloride	1180 9.98	1650 49.8				
TPH by SW8015 Mod	Extracted:	12.07.2020 17:00	12.07.2020 17:00				
	Analyzed:	12.07.2020 23:37	12.08.2020 00:17				
	Units/RL:	mg/kg RL	mg/kg RL				
	Gasoline Range Hydrocarbons (GRO)	<50.2 50.2	<50.3 50.3				
	Diesel Range Organics (DRO)	<50.2 50.2	<50.3 50.3				
	Motor Oil Range Hydrocarbons (MRO)	<50.2 50.2	<50.3 50.3				
	Total GRO-DRO	<50.20 50.20	<50.30 50.30				
	Total TPH	<50.20 50.20	<50.30 50.30				

BRL - Below Reporting Limit

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



Analytical Report 680098

for

LT Environmental, Inc.

Project Manager: Dan Moir

JRU 21 SWD Riser

012920074

12.09.2020

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: TN102385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



12.09.2020

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: Eurofins Xenco, LLC Report No(s): **680098**

JRU 21 SWD Riser

Project Address: Eddy County, New Mexico

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) 680098. 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. 680098 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,

A handwritten signature in black ink that reads "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

**Sample Cross Reference 680098****LT Environmental, Inc., Arvada, CO**

JRU 21 SWD Riser

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS17	S	12.07.2020 10:10	4 ft	680098-001
FS18	S	12.07.2020 12:15	4 ft	680098-002
FS19	S	12.07.2020 12:20	4 ft	680098-003
FS20	S	12.07.2020 12:25	4 ft	680098-004
FS21	S	12.07.2020 12:30	4 ft	680098-005
FS22	S	12.07.2020 13:20	4 ft	680098-006
FS23	S	12.07.2020 14:05	4 ft	680098-007
SW07	S	12.07.2020 14:10	4 ft	680098-008



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: JRU 21 SWD Riser

Project ID: 012920074
Work Order Number(s): 680098

Report Date: 12.09.2020
Date Received: 12.07.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 680098

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS17**
Lab Sample Id: 680098-001

Matrix: Soil
Date Collected: 12.07.2020 10:10

Date Received: 12.07.2020 15:38
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.07.2020 17:22

% Moisture:
Basis: Wet Weight

Seq Number: 3144165

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10800	49.9	mg/kg	12.07.2020 21:33		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.07.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144187

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.07.2020 22:56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.07.2020 22:56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.07.2020 22:56	U	1
Total GRO-DRO	PHC628	<49.80	49.80	mg/kg	12.07.2020 22:56	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	12.07.2020 22:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	12.07.2020 22:56	
o-Terphenyl	84-15-1	107	%	70-135	12.07.2020 22:56	



Certificate of Analytical Results 680098

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS17**
Lab Sample Id: 680098-001

Matrix: Soil
Date Collected: 12.07.2020 10:10

Date Received: 12.07.2020 15:38
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 08:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144262

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.08.2020 17:13	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.08.2020 17:13	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.08.2020 17:13	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.08.2020 17:13	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.08.2020 17:13	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.08.2020 17:13	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.08.2020 17:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.08.2020 17:13	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.08.2020 17:13	



Certificate of Analytical Results 680098

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS18** Matrix: Soil Date Received: 12.07.2020 15:38
 Lab Sample Id: 680098-002 Date Collected: 12.07.2020 12:15 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.07.2020 17:22 % Moisture:
 Seq Number: 3144165 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2050	49.5	mg/kg	12.07.2020 21:39		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.07.2020 17:00 % Moisture:
 Seq Number: 3144187 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.07.2020 23:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.07.2020 23:16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.07.2020 23:16	U	1
Total GRO-DRO	PHC628	<50.20	50.20	mg/kg	12.07.2020 23:16	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.07.2020 23:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	12.07.2020 23:16	
o-Terphenyl	84-15-1	116	%	70-135	12.07.2020 23:16	



Certificate of Analytical Results 680098

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS18**
Lab Sample Id: 680098-002

Matrix: Soil
Date Collected: 12.07.2020 12:15

Date Received: 12.07.2020 15:38
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 08:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144262

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.08.2020 17:35	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.08.2020 17:35	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.08.2020 17:35	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.08.2020 17:35	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.08.2020 17:35	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.08.2020 17:35	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.08.2020 17:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.08.2020 17:35	
4-Bromofluorobenzene	460-00-4	116	%	70-130	12.08.2020 17:35	



Certificate of Analytical Results 680098

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS19** Matrix: Soil Date Received: 12.07.2020 15:38
 Lab Sample Id: 680098-003 Date Collected: 12.07.2020 12:20 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.07.2020 17:22 % Moisture:
 Seq Number: 3144165 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4700	50.4	mg/kg	12.07.2020 21:56		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.07.2020 17:00 % Moisture:
 Seq Number: 3144187 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.07.2020 23:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.07.2020 23:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.07.2020 23:37	U	1
Total GRO-DRO	PHC628	<50.10	50.10	mg/kg	12.07.2020 23:37	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.07.2020 23:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	12.07.2020 23:37	
o-Terphenyl	84-15-1	113	%	70-135	12.07.2020 23:37	



Certificate of Analytical Results 680098

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS19**
Lab Sample Id: 680098-003

Matrix: Soil
Date Collected: 12.07.2020 12:20

Date Received: 12.07.2020 15:38
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 08:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144262

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.08.2020 17:57	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.08.2020 17:57	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.08.2020 17:57	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.08.2020 17:57	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.08.2020 17:57	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.08.2020 17:57	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.08.2020 17:57	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	120	%	70-130	12.08.2020 17:57		
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.08.2020 17:57		



Certificate of Analytical Results 680098

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS20** Matrix: Soil Date Received: 12.07.2020 15:38
 Lab Sample Id: 680098-004 Date Collected: 12.07.2020 12:25 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.07.2020 17:22 % Moisture:
 Seq Number: 3144165 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3360	50.1	mg/kg	12.07.2020 22:01		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.07.2020 17:00 % Moisture:
 Seq Number: 3144187 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.08.2020 00:17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.08.2020 00:17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.08.2020 00:17	U	1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.08.2020 00:17	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.08.2020 00:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	12.08.2020 00:17	
o-Terphenyl	84-15-1	109	%	70-135	12.08.2020 00:17	



Certificate of Analytical Results 680098

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS20**
Lab Sample Id: 680098-004

Matrix: Soil
Date Collected: 12.07.2020 12:25

Date Received: 12.07.2020 15:38
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 08:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144262

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.08.2020 18:20	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.08.2020 18:20	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.08.2020 18:20	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.08.2020 18:20	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.08.2020 18:20	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.08.2020 18:20	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.08.2020 18:20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.08.2020 18:20		
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.08.2020 18:20		



Certificate of Analytical Results 680098

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS21** Matrix: Soil Date Received: 12.07.2020 15:38
 Lab Sample Id: 680098-005 Date Collected: 12.07.2020 12:30 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.07.2020 17:22 % Moisture:
 Seq Number: 3144165 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3440	49.9	mg/kg	12.07.2020 22:18		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.07.2020 17:00 % Moisture:
 Seq Number: 3144163 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.07.2020 22:56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.07.2020 22:56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.07.2020 22:56	U	1
Total GRO-DRO	PHC628	<50.20	50.20	mg/kg	12.07.2020 22:56	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.07.2020 22:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	12.07.2020 22:56	
o-Terphenyl	84-15-1	113	%	70-135	12.07.2020 22:56	



Certificate of Analytical Results 680098

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS21**
Lab Sample Id: 680098-005

Matrix: Soil
Date Collected: 12.07.2020 12:30

Date Received: 12.07.2020 15:38
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 08:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144262

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.08.2020 18:42	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.08.2020 18:42	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.08.2020 18:42	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.08.2020 18:42	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.08.2020 18:42	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.08.2020 18:42	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.08.2020 18:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.08.2020 18:42	
4-Bromofluorobenzene	460-00-4	118	%	70-130	12.08.2020 18:42	



Certificate of Analytical Results 680098

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS22** Matrix: Soil Date Received: 12.07.2020 15:38
 Lab Sample Id: 680098-006 Date Collected: 12.07.2020 13:20 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.07.2020 17:22 % Moisture:
 Seq Number: 3144165 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	989	9.96	mg/kg	12.07.2020 22:24		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.07.2020 17:00 % Moisture:
 Seq Number: 3144163 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.07.2020 23:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.07.2020 23:16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.07.2020 23:16	U	1
Total GRO-DRO	PHC628	<50.10	50.10	mg/kg	12.07.2020 23:16	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.07.2020 23:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	12.07.2020 23:16	
o-Terphenyl	84-15-1	101	%	70-135	12.07.2020 23:16	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS22**
Lab Sample Id: 680098-006

Matrix: Soil
Date Collected: 12.07.2020 13:20

Date Received: 12.07.2020 15:38
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 08:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144262

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.08.2020 19:05	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.08.2020 19:05	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.08.2020 19:05	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.08.2020 19:05	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.08.2020 19:05	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.08.2020 19:05	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.08.2020 19:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	115	%	70-130	12.08.2020 19:05	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.08.2020 19:05	



Certificate of Analytical Results 680098

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS23**
Lab Sample Id: 680098-007

Matrix: Soil
Date Collected: 12.07.2020 14:05

Date Received: 12.07.2020 15:38
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.07.2020 17:22

% Moisture:
Basis: Wet Weight

Seq Number: 3144165

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1180	9.98	mg/kg	12.07.2020 22:29		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.07.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144163

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.07.2020 23:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.07.2020 23:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.07.2020 23:37	U	1
Total GRO-DRO	PHC628	<50.20	50.20	mg/kg	12.07.2020 23:37	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.07.2020 23:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	12.07.2020 23:37	
o-Terphenyl	84-15-1	111	%	70-135	12.07.2020 23:37	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS23**
Lab Sample Id: 680098-007

Matrix: Soil
Date Collected: 12.07.2020 14:05

Date Received: 12.07.2020 15:38
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 08:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144262

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.08.2020 19:27	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.08.2020 19:27	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.08.2020 19:27	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.08.2020 19:27	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.08.2020 19:27	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.08.2020 19:27	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.08.2020 19:27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.08.2020 19:27		
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.08.2020 19:27		



Certificate of Analytical Results 680098

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SW07** Matrix: Soil Date Received: 12.07.2020 15:38
 Lab Sample Id: 680098-008 Date Collected: 12.07.2020 14:10 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.07.2020 17:22 % Moisture:
 Seq Number: 3144165 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1650	49.8	mg/kg	12.07.2020 22:35		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.07.2020 17:00 % Moisture:
 Seq Number: 3144163 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.08.2020 00:17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.08.2020 00:17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.08.2020 00:17	U	1
Total GRO-DRO	PHC628	<50.30	50.30	mg/kg	12.08.2020 00:17	U	1
Total TPH	PHC635	<50.30	50.30	mg/kg	12.08.2020 00:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	12.08.2020 00:17	
o-Terphenyl	84-15-1	118	%	70-135	12.08.2020 00:17	



Certificate of Analytical Results 680098

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **SW07**
Lab Sample Id: 680098-008

Matrix: Soil
Date Collected: 12.07.2020 14:10

Date Received: 12.07.2020 15:38
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 08:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144262

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.08.2020 19:49	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.08.2020 19:49	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.08.2020 19:49	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.08.2020 19:49	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.08.2020 19:49	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.08.2020 19:49	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.08.2020 19:49	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.08.2020 19:49		
4-Bromofluorobenzene	460-00-4	120	%	70-130	12.08.2020 19:49		



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



LT Environmental, Inc.

JRU 21 SWD Riser

Analytical Method: Chloride by EPA 300

Seq Number: 3144165

MB Sample Id: 7716605-1-BLK

Matrix: Solid

LCS Sample Id: 7716605-1-BKS

Prep Method: E300P

Date Prep: 12.07.2020

LCSD Sample Id: 7716605-1-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	244	98	244	98	90-110	0	20	mg/kg	12.07.2020 20:10	

Analytical Method: Chloride by EPA 300

Seq Number: 3144165

Parent Sample Id: 680069-001

Matrix: Soil

MS Sample Id: 680069-001 S

Prep Method: E300P

Date Prep: 12.07.2020

MSD Sample Id: 680069-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	583	200	792	105	788	103	90-110	1	20	mg/kg	12.07.2020 20:27	

Analytical Method: Chloride by EPA 300

Seq Number: 3144165

Parent Sample Id: 680098-002

Matrix: Soil

MS Sample Id: 680098-002 S

Prep Method: E300P

Date Prep: 12.07.2020

MSD Sample Id: 680098-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	2050	204	2240	93	2240	94	90-110	0	20	mg/kg	12.07.2020 21:45	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144163

MB Sample Id: 7716607-1-BLK

Matrix: Solid

LCS Sample Id: 7716607-1-BKS

Prep Method: SW8015P

Date Prep: 12.07.2020

LCSD Sample Id: 7716607-1-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	999	100	1010	101	70-135	1	35	mg/kg	12.07.2020 19:15	
Diesel Range Organics (DRO)	<50.0	1000	1020	102	1110	111	70-135	8	35	mg/kg	12.07.2020 19:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	102		110		107		70-135	%	12.07.2020 19:15
o-Terphenyl	116		104		106		70-135	%	12.07.2020 19:15

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144187

MB Sample Id: 7716606-1-BLK

Matrix: Solid

LCS Sample Id: 7716606-1-BKS

Prep Method: SW8015P

Date Prep: 12.07.2020

LCSD Sample Id: 7716606-1-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	974	97	1070	107	70-135	9	35	mg/kg	12.07.2020 19:15	
Diesel Range Organics (DRO)	<50.0	1000	1110	111	1190	119	70-135	7	35	mg/kg	12.07.2020 19:15	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		126		117		70-135	%	12.07.2020 19:15
o-Terphenyl	110		98		118		70-135	%	12.07.2020 19:15

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

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

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

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



LT Environmental, Inc.

JRU 21 SWD Riser

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144163

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.07.2020

MB Sample Id: 7716607-1-BLK

Parameter

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.07.2020 18:54	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144187

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.07.2020

MB Sample Id: 7716606-1-BLK

Parameter

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.07.2020 18:54	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144163

Matrix: Soil

Prep Method: SW8015P

Date Prep: 12.07.2020

Parent Sample Id: 680069-001

MS Sample Id: 680069-001 S

MSD Sample Id: 680069-001 SD

Parameter

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	1080	108	998	100	70-135	8	35	mg/kg	12.07.2020 20:15	
Diesel Range Organics (DRO)	<50.2	1000	1150	115	1090	109	70-135	5	35	mg/kg	12.07.2020 20:15	

Surrogate

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	109		104		70-135	%	12.07.2020 20:15
o-Terphenyl	111		107		70-135	%	12.07.2020 20:15

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144187

Matrix: Soil

Prep Method: SW8015P

Date Prep: 12.07.2020

Parent Sample Id: 679821-021

MS Sample Id: 679821-021 S

MSD Sample Id: 679821-021 SD

Parameter

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)	<50.1	1000	1130	113	1020	102	70-135	10	35	mg/kg	12.07.2020 20:15	
Diesel Range Organics (DRO)	<50.1	1000	1000	100	1110	111	70-135	10	35	mg/kg	12.07.2020 20:15	

Surrogate

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		104		70-135	%	12.07.2020 20:15
o-Terphenyl	111		105		70-135	%	12.07.2020 20:15

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

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

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

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



LT Environmental, Inc.

JRU 21 SWD Riser

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144262

MB Sample Id: 7716598-1-BLK

Matrix: Solid

LCS Sample Id: 7716598-1-BKS

Prep Method: SW5035A

Date Prep: 12.08.2020

LCSD Sample Id: 7716598-1-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	0.0951	95	0.0997	100	70-130	5	35	mg/kg	12.08.2020 09:34	
Toluene	<0.00200	0.100	0.0881	88	0.0945	95	70-130	7	35	mg/kg	12.08.2020 09:34	
Ethylbenzene	<0.00200	0.100	0.0907	91	0.0988	99	71-129	9	35	mg/kg	12.08.2020 09:34	
m,p-Xylenes	<0.00400	0.200	0.185	93	0.203	102	70-135	9	35	mg/kg	12.08.2020 09:34	
o-Xylene	<0.00200	0.100	0.0922	92	0.101	101	71-133	9	35	mg/kg	12.08.2020 09:34	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		93		99		70-130	%	12.08.2020 09:34
4-Bromofluorobenzene	114		103		113		70-130	%	12.08.2020 09:34

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144262

Parent Sample Id: 680069-001

Matrix: Soil

MS Sample Id: 680069-001 S

Prep Method: SW5035A

Date Prep: 12.08.2020

MSD Sample Id: 680069-001 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	0.118	118	0.104	104	70-130	13	35	mg/kg	12.08.2020 10:18	
Toluene	<0.00200	0.0998	0.111	111	0.0979	98	70-130	13	35	mg/kg	12.08.2020 10:18	
Ethylbenzene	<0.00200	0.0998	0.116	116	0.101	101	71-129	14	35	mg/kg	12.08.2020 10:18	
m,p-Xylenes	<0.00399	0.200	0.242	121	0.208	105	70-135	15	35	mg/kg	12.08.2020 10:18	
o-Xylene	<0.00200	0.0998	0.119	119	0.101	101	71-133	16	35	mg/kg	12.08.2020 10:18	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		97		70-130	%	12.08.2020 10:18
4-Bromofluorobenzene	109		105		70-130	%	12.08.2020 10:18

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

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

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

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



Chain of Custody

Work Order No: 1680098

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)

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Page 1 of 1

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	522 West Mermond
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	enaka@ltenv.com, dmoir@ltenv.com

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

Project Name:	JRU 21 SWD Riser	Turn Around		ANALYSIS REQUEST	Work Order Notes
Project Number:	012920074	Routine	☒		
P.O. Number:	Eddy County	Rush:			
Sampler's Name:	Elizabeth Naka	Due Date:			
SAMPLE RECEIPT					
Temperature (°C):	0.8/0.6	Temp Blank:	☒ Yes ☐ No	Wet Ice:	☒ Yes ☐ No
Received Inact:	☒ Yes ☐ No	Thermometer ID	7-WM-0074		
Cooler Custody Seals:	☒ Yes ☐ No	Correction Factor:	-0.2		
Sample Custody Seals:	☒ Yes ☐ No	Total Containers:	8		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
FS17	S	2/10/20	10:10	4'	1	X	X	X	composite
FS18			12:15						
FS19			12:20						
FS20			12:25						
FS21			12:30						
FS22			13:20						
FS23			14:05						
SW02			14:10						

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 Ti 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 Ti 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
<i>Elizabeth Naka</i>	<i>Joe Cuffee</i>	12.7.26 1538			

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 12.07.2020 03.38.00 PM

Work Order #: 680098

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

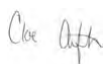
Samples received in bulk containers.

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

Analyst: jHYROM

PH Device/Lot#: 10bdh0601

Checklist completed by:



Cloe Clifton

Date: 12.07.2020

Checklist reviewed by:



Jessica Kramer

Date: 12.09.2020

Certificate of Analysis Summary 680246



LT Environmental, Inc., Arvada, CO

Project Name: JRU 21 SWD Riser

Project Id: TE012920074
Contact: Dan Moir
Project Location: Eddy County, New Mexico

Date Received in Lab: Tue 12.08.2020 13:56**Report Date:** 12.10.2020 13:19**Project Manager:** Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	680246-001	680246-002	680246-003	680246-004	680246-005	680246-006
	<i>Field Id:</i>	FS24	FS25	FS26	FS27	FS28	FS29
	<i>Depth:</i>	4- ft	4- ft	4- ft	4- ft	4- ft	4- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.08.2020 08:30	12.08.2020 08:35	12.08.2020 08:40	12.08.2020 08:45	12.08.2020 08:50	12.08.2020 08:55
BTEX by EPA 8021B	<i>Extracted:</i>	*** ** *	*** ** *	*** ** *	*** ** *	*** ** *	*** ** *
	<i>Analyzed:</i>	12.08.2020 18:50	12.08.2020 19:13	12.08.2020 19:35	12.08.2020 19:58	12.08.2020 20:20	12.08.2020 20:42
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202
Toluene		<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202
Ethylbenzene		<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202
m,p-Xylenes		<0.00398 0.00398	<0.00401 0.00401	<0.00403 0.00403	<0.00396 0.00396	<0.00399 0.00399	<0.00404 0.00404
o-Xylene		<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202
Total Xylenes		<0.001990 0.001990	<0.002000 0.002000	<0.002020 0.002020	<0.001980 0.001980	<0.002000 0.002000	<0.002020 0.002020
Total BTEX		<0.001990 0.001990	<0.002000 0.002000	<0.002020 0.002020	<0.001980 0.001980	<0.002000 0.002000	<0.002020 0.002020
Chloride by EPA 300	<i>Extracted:</i>	12.08.2020 15:30	12.08.2020 15:30	12.08.2020 15:30	12.08.2020 15:30	12.08.2020 15:30	12.08.2020 15:30
	<i>Analyzed:</i>	12.08.2020 17:09	12.08.2020 17:26	12.08.2020 17:31	12.08.2020 17:37	12.08.2020 17:42	12.08.2020 17:59
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		357 9.98	2130 50.5	3510 49.9	8630 49.9	5480 49.5	1700 50.5
TPH by SW8015 Mod	<i>Extracted:</i>	12.08.2020 17:00	12.08.2020 17:00	12.08.2020 17:00	12.08.2020 17:00	12.08.2020 17:00	12.08.2020 17:00
	<i>Analyzed:</i>	12.08.2020 20:05	12.08.2020 21:25	12.08.2020 21:46	12.08.2020 22:05	12.08.2020 22:25	12.08.2020 22:46
	<i>Units/RL:</i>	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	<49.9 49.9	<49.8 49.8	<50.2 50.2	<49.8 49.8	<50.1 50.1
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.2 50.2	<49.8 49.8	<50.1 50.1
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<49.8 49.8	<50.2 50.2	<49.8 49.8	<50.1 50.1
Total GRO-DRO		<50.00 50.00	<49.90 49.90	<49.80 49.80	<50.20 50.20	<49.80 49.80	<50.10 50.10
Total TPH		<50.00 50.00	<49.90 49.90	<49.80 49.80	<50.20 50.20	<49.80 49.80	<50.10 50.10

BRL - Below Reporting Limit

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

Certificate of Analysis Summary 680246



LT Environmental, Inc., Arvada, CO

Project Name: JRU 21 SWD Riser

Project Id: TE012920074
Contact: Dan Moir
Project Location: Eddy County, New Mexico

Date Received in Lab: Tue 12.08.2020 13:56**Report Date:** 12.10.2020 13:19**Project Manager:** Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	680246-007	680246-008	680246-009	680246-010	680246-011	680246-012
	<i>Field Id:</i>	FS30	FS31	FS32	FS33	FS34	FS35
	<i>Depth:</i>	4- ft	4- ft	4- ft	4- ft	2- ft	2- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.08.2020 09:00	12.08.2020 09:05	12.08.2020 09:45	12.08.2020 09:50	12.08.2020 09:55	12.08.2020 10:00
BTEX by EPA 8021B	<i>Extracted:</i>	*****	*****	*****	*****	*****	*****
	<i>Analyzed:</i>	12.08.2020 21:05	12.08.2020 22:23	12.08.2020 22:45	12.08.2020 23:07	12.08.2020 23:30	12.08.2020 23:52
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
Toluene		<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
Ethylbenzene		<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
m,p-Xylenes		<0.00398 0.00398	<0.00402 0.00402	<0.00399 0.00399	<0.00400 0.00400	<0.00400 0.00400	<0.00402 0.00402
o-Xylene		<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201
Total Xylenes		<0.001990 0.001990	<0.002010 0.002010	<0.002000 0.002000	<0.002000 0.002000	<0.002000 0.002000	<0.002010 0.002010
Total BTEX		<0.001990 0.001990	<0.002010 0.002010	<0.002000 0.002000	<0.002000 0.002000	<0.002000 0.002000	<0.002010 0.002010
Chloride by EPA 300	<i>Extracted:</i>	12.08.2020 15:30	12.08.2020 15:30	12.08.2020 15:30	12.08.2020 15:30	12.08.2020 15:30	12.08.2020 15:30
	<i>Analyzed:</i>	12.08.2020 18:05	12.08.2020 18:10	12.08.2020 18:16	12.08.2020 18:21	12.08.2020 18:27	12.08.2020 18:44
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		7190 49.8	4570 50.1	4170 50.1	4500 50.1	19.3 10.1	21.5 10.1
TPH by SW8015 Mod	<i>Extracted:</i>	12.08.2020 17:00	12.08.2020 17:00	12.08.2020 17:00	12.08.2020 17:00	12.08.2020 17:00	12.08.2020 17:00
	<i>Analyzed:</i>	12.08.2020 23:06	12.08.2020 23:25	12.08.2020 23:45	12.09.2020 00:25	12.09.2020 00:45	12.09.2020 01:05
	<i>Units/RL:</i>	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	<49.9 49.9	<50.1 50.1	<50.1 50.1	<49.8 49.8	<50.2 50.2
Diesel Range Organics (DRO)		<49.9 49.9	<49.9 49.9	<50.1 50.1	<50.1 50.1	<49.8 49.8	<50.2 50.2
Motor Oil Range Hydrocarbons (MRO)		<49.9 49.9	<49.9 49.9	<50.1 50.1	<50.1 50.1	<49.8 49.8	<50.2 50.2
Total GRO-DRO		<49.90 49.90	<49.90 49.90	<50.10 50.10	<50.10 50.10	<49.80 49.80	<50.20 50.20
Total TPH		<49.90 49.90	<49.90 49.90	<50.10 50.10	<50.10 50.10	<49.80 49.80	<50.20 50.20

BRL - Below Reporting Limit

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Certificate of Analysis Summary 680246



LT Environmental, Inc., Arvada, CO

Project Name: JRU 21 SWD Riser

Project Id: TE012920074
Contact: Dan Moir
Project Location: Eddy County, New Mexico

Date Received in Lab: Tue 12.08.2020 13:56
Report Date: 12.10.2020 13:19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	680246-013	680246-014	680246-015	680246-016	680246-017	680246-018
	<i>Field Id:</i>	FS36	FS37	FS38	FS39	FS40	FS41
	<i>Depth:</i>	2- ft	2- ft	2- ft	2- ft	2- ft	2- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.08.2020 10:05	12.08.2020 10:10	12.08.2020 10:15	12.08.2020 10:20	12.08.2020 10:50	12.08.2020 10:55
BTEX by EPA 8021B	<i>Extracted:</i>	*** ** *	*** ** *	*** ** *	*** ** *	*** ** *	12.08.2020 17:29
	<i>Analyzed:</i>	12.09.2020 00:14	12.09.2020 00:37	12.09.2020 00:59	12.09.2020 01:22	12.09.2020 01:44	12.08.2020 23:36
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00201 0.00201	<0.00198 0.00198	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00201 0.00201	<0.00198 0.00198	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00201 0.00201	<0.00198 0.00198	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00402 0.00402	<0.00397 0.00397	<0.00404 0.00404	<0.00404 0.00404	<0.00399 0.00399	<0.00400 0.00400
o-Xylene		<0.00201 0.00201	<0.00198 0.00198	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.002010 0.002010	<0.001980 0.001980	<0.002020 0.002020	<0.002020 0.002020	<0.002000 0.002000	<0.002000 0.002000
Total BTEX		<0.002010 0.002010	<0.001980 0.001980	<0.002020 0.002020	<0.002020 0.002020	<0.002000 0.002000	<0.002000 0.002000
Chloride by EPA 300	<i>Extracted:</i>	12.08.2020 15:30	12.08.2020 15:30	12.08.2020 15:30	12.08.2020 15:30	12.08.2020 15:30	12.08.2020 15:30
	<i>Analyzed:</i>	12.08.2020 18:49	12.08.2020 19:06	12.08.2020 19:12	12.08.2020 19:17	12.08.2020 19:23	12.08.2020 19:28
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		35.7 10.1	76.6 9.94	13.4 10.1	28.7 10.0	22.1 9.92	172 9.96
TPH by SW8015 Mod	<i>Extracted:</i>	12.08.2020 17:00	12.08.2020 17:00	12.08.2020 17:00	12.08.2020 17:00	12.08.2020 17:00	12.08.2020 17:00
	<i>Analyzed:</i>	12.09.2020 01:25	12.09.2020 01:45	12.09.2020 02:04	12.08.2020 20:05	12.08.2020 21:05	12.08.2020 21:25
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<50.3 50.3	<50.1 50.1	<49.9 49.9	<50.0 50.0	<50.0 50.0	<50.0 50.0
Diesel Range Organics (DRO)		<50.3 50.3	<50.1 50.1	<49.9 49.9	<50.0 50.0	<50.0 50.0	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.3 50.3	<50.1 50.1	<49.9 49.9	<50.0 50.0	<50.0 50.0	<50.0 50.0
Total GRO-DRO		<50.30 50.30	<50.10 50.10	<49.90 49.90	<50.00 50.00	<50.00 50.00	<50.00 50.00
Total TPH		<50.30 50.30	<50.10 50.10	<49.90 49.90	<50.00 50.00	<50.00 50.00	<50.00 50.00

BRL - Below Reporting Limit

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

Certificate of Analysis Summary 680246



LT Environmental, Inc., Arvada, CO

Project Name: JRU 21 SWD Riser

Project Id: TE012920074
Contact: Dan Moir
Project Location: Eddy County, New Mexico

Date Received in Lab: Tue 12.08.2020 13:56
Report Date: 12.10.2020 13:19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	680246-019	680246-020	680246-021	680246-022	680246-023	680246-024
	<i>Field Id:</i>	FS42	FS43	FS44	FS45	FS46	FS47
	<i>Depth:</i>	2- ft	4- ft	2- ft	2- ft	2- ft	2- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.08.2020 11:00	12.08.2020 11:05	12.08.2020 11:10	12.08.2020 11:15	12.08.2020 11:20	12.08.2020 11:25
BTEX by EPA 8021B	<i>Extracted:</i>	12.08.2020 17:29	12.08.2020 17:29	12.08.2020 17:29	12.08.2020 17:29	12.08.2020 17:29	12.08.2020 17:29
	<i>Analyzed:</i>	12.08.2020 23:58	12.09.2020 00:21	12.09.2020 00:43	12.09.2020 01:06	12.09.2020 01:28	12.09.2020 01:51
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Toluene		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Ethylbenzene		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
m,p-Xylenes		<0.00397 0.00397	<0.00398 0.00398	<0.00398 0.00398	<0.00402 0.00402	<0.00401 0.00401	<0.00398 0.00398
o-Xylene		<0.00198 0.00198	<0.00199 0.00199	<0.00199 0.00199	<0.00201 0.00201	<0.00200 0.00200	<0.00199 0.00199
Total Xylenes		<0.001980 0.001980	<0.001990 0.001990	<0.001990 0.001990	<0.002010 0.002010	<0.002000 0.002000	<0.001990 0.001990
Total BTEX		<0.001980 0.001980	<0.001990 0.001990	<0.001990 0.001990	<0.002010 0.002010	<0.002000 0.002000	<0.001990 0.001990
Chloride by EPA 300	<i>Extracted:</i>	12.08.2020 15:30	12.08.2020 15:30	12.08.2020 17:10	12.08.2020 17:10	12.08.2020 17:10	12.08.2020 17:10
	<i>Analyzed:</i>	12.08.2020 19:34	12.08.2020 19:39	12.09.2020 09:55	12.09.2020 10:12	12.09.2020 10:17	12.09.2020 10:23
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		190 9.96	954 10.0	<9.90 9.90	162 10.1	276 10.1	12.2 10.0
TPH by SW8015 Mod	<i>Extracted:</i>	12.08.2020 17:00	12.08.2020 17:00	12.08.2020 17:00	12.08.2020 17:00	12.08.2020 17:00	12.08.2020 17:00
	<i>Analyzed:</i>	12.08.2020 21:46	12.08.2020 22:05	12.08.2020 22:25	12.08.2020 22:46	12.08.2020 23:06	12.08.2020 23:25
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.8 49.8	<50.1 50.1	<50.0 50.0	<49.9 49.9	<50.1 50.1	<49.9 49.9
Diesel Range Organics (DRO)		<49.8 49.8	<50.1 50.1	<50.0 50.0	<49.9 49.9	<50.1 50.1	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<50.1 50.1	<50.0 50.0	<49.9 49.9	<50.1 50.1	<49.9 49.9
Total GRO-DRO		<49.80 49.80	<50.10 50.10	<50.00 50.00	<49.90 49.90	<50.10 50.10	<49.90 49.90
Total TPH		<49.80 49.80	<50.10 50.10	<50.00 50.00	<49.90 49.90	<50.10 50.10	<49.90 49.90

BRL - Below Reporting Limit

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

Certificate of Analysis Summary 680246



LT Environmental, Inc., Arvada, CO

Project Name: JRU 21 SWD Riser

Project Id: TE012920074
Contact: Dan Moir
Project Location: Eddy County, New Mexico

Date Received in Lab: Tue 12.08.2020 13:56
Report Date: 12.10.2020 13:19
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	680246-025	680246-026	680246-027	680246-028	680246-029	680246-030
	<i>Field Id:</i>	FS48	FS49	FS50	FS51	FS52	FS53
	<i>Depth:</i>	2- ft	2- ft	2- ft	4- ft	2- ft	2- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.08.2020 12:10	12.08.2020 12:15	12.08.2020 12:20	12.08.2020 12:25	12.08.2020 12:30	12.08.2020 12:35
BTEX by EPA 8021B	<i>Extracted:</i>	12.08.2020 17:29	12.08.2020 17:29	12.08.2020 17:29	12.08.2020 17:29	12.08.2020 17:29	12.08.2020 17:29
	<i>Analyzed:</i>	12.09.2020 02:13	12.09.2020 02:36	12.09.2020 02:58	12.09.2020 04:18	12.09.2020 04:40	12.09.2020 05:03
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00202 0.00202	<0.00198 0.00198	<0.00202 0.00202	<0.00201 0.00201	<0.00198 0.00198
Toluene		<0.00200 0.00200	<0.00202 0.00202	<0.00198 0.00198	<0.00202 0.00202	<0.00201 0.00201	<0.00198 0.00198
Ethylbenzene		<0.00200 0.00200	<0.00202 0.00202	<0.00198 0.00198	<0.00202 0.00202	<0.00201 0.00201	<0.00198 0.00198
m,p-Xylenes		<0.00401 0.00401	<0.00404 0.00404	<0.00396 0.00396	<0.00404 0.00404	<0.00402 0.00402	<0.00397 0.00397
o-Xylene		<0.00200 0.00200	<0.00202 0.00202	<0.00198 0.00198	<0.00202 0.00202	<0.00201 0.00201	<0.00198 0.00198
Total Xylenes		<0.002000 0.002000	<0.002020 0.002020	<0.001980 0.001980	<0.002020 0.002020	<0.002010 0.002010	<0.001980 0.001980
Total BTEX		<0.002000 0.002000	<0.002020 0.002020	<0.001980 0.001980	<0.002020 0.002020	<0.002010 0.002010	<0.001980 0.001980
Chloride by EPA 300	<i>Extracted:</i>	12.08.2020 17:10	12.08.2020 17:10	12.08.2020 17:10	12.08.2020 17:10	12.08.2020 17:10	12.08.2020 17:10
	<i>Analyzed:</i>	12.09.2020 10:28	12.09.2020 10:45	12.09.2020 10:51	12.09.2020 10:56	12.09.2020 11:02	12.09.2020 11:07
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		64.0 10.0	68.6 10.0	52.3 9.94	5790 49.9	27.1 9.98	25.4 9.96
TPH by SW8015 Mod	<i>Extracted:</i>	12.08.2020 17:00	12.08.2020 17:00	12.08.2020 17:00	12.08.2020 17:00	12.08.2020 17:00	12.08.2020 17:00
	<i>Analyzed:</i>	12.08.2020 23:45	12.09.2020 00:25	12.09.2020 00:45	12.09.2020 01:05	12.09.2020 01:25	12.09.2020 01:45
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.8 49.8	<50.1 50.1	<49.8 49.8	<50.2 50.2	<50.0 50.0	<49.9 49.9
Diesel Range Organics (DRO)		<49.8 49.8	<50.1 50.1	<49.8 49.8	<50.2 50.2	<50.0 50.0	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<50.1 50.1	<49.8 49.8	<50.2 50.2	<50.0 50.0	<49.9 49.9
Total GRO-DRO		<49.80 49.80	<50.10 50.10	<49.80 49.80	<50.20 50.20	<50.00 50.00	<49.90 49.90
Total TPH		<49.80 49.80	<50.10 50.10	<49.80 49.80	<50.20 50.20	<50.00 50.00	<49.90 49.90

BRL - Below Reporting Limit

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



Analytical Report 680246

for

LT Environmental, Inc.

Project Manager: Dan Moir

JRU 21 SWD Riser

TE012920074

12.10.2020

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: TN102385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



12.10.2020

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: Eurofins Xenco, LLC Report No(s): **680246**

JRU 21 SWD Riser

Project Address: Eddy County, New Mexico

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) 680246. 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. 680246 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,

A handwritten signature in black ink that reads "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

**Sample Cross Reference 680246****LT Environmental, Inc., Arvada, CO**

JRU 21 SWD Riser

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS24	S	12.08.2020 08:30	4 ft	680246-001
FS25	S	12.08.2020 08:35	4 ft	680246-002
FS26	S	12.08.2020 08:40	4 ft	680246-003
FS27	S	12.08.2020 08:45	4 ft	680246-004
FS28	S	12.08.2020 08:50	4 ft	680246-005
FS29	S	12.08.2020 08:55	4 ft	680246-006
FS30	S	12.08.2020 09:00	4 ft	680246-007
FS31	S	12.08.2020 09:05	4 ft	680246-008
FS32	S	12.08.2020 09:45	4 ft	680246-009
FS33	S	12.08.2020 09:50	4 ft	680246-010
FS34	S	12.08.2020 09:55	2 ft	680246-011
FS35	S	12.08.2020 10:00	2 ft	680246-012
FS36	S	12.08.2020 10:05	2 ft	680246-013
FS37	S	12.08.2020 10:10	2 ft	680246-014
FS38	S	12.08.2020 10:15	2 ft	680246-015
FS39	S	12.08.2020 10:20	2 ft	680246-016
FS40	S	12.08.2020 10:50	2 ft	680246-017
FS41	S	12.08.2020 10:55	2 ft	680246-018
FS42	S	12.08.2020 11:00	2 ft	680246-019
FS43	S	12.08.2020 11:05	4 ft	680246-020
FS44	S	12.08.2020 11:10	2 ft	680246-021
FS45	S	12.08.2020 11:15	2 ft	680246-022
FS46	S	12.08.2020 11:20	2 ft	680246-023
FS47	S	12.08.2020 11:25	2 ft	680246-024
FS48	S	12.08.2020 12:10	2 ft	680246-025
FS49	S	12.08.2020 12:15	2 ft	680246-026
FS50	S	12.08.2020 12:20	2 ft	680246-027
FS51	S	12.08.2020 12:25	4 ft	680246-028
FS52	S	12.08.2020 12:30	2 ft	680246-029
FS53	S	12.08.2020 12:35	2 ft	680246-030



CASE NARRATIVE

Client Name: *LT Environmental, Inc.*

Project Name: *JRU 21 SWD Riser*

Project ID: *TE012920074*
Work Order Number(s): *680246*

Report Date: *12.10.2020*
Date Received: *12.08.2020*

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 680246

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS24**
Lab Sample Id: 680246-001

Matrix: Soil
Date Collected: 12.08.2020 08:30

Date Received: 12.08.2020 13:56
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 15:30

% Moisture:
Basis: Wet Weight

Seq Number: 3144269

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	357	9.98	mg/kg	12.08.2020 17:09		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.08.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144261

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.08.2020 20:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.08.2020 20:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.08.2020 20:05	U	1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.08.2020 20:05	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.08.2020 20:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	12.08.2020 20:05	
o-Terphenyl	84-15-1	108	%	70-135	12.08.2020 20:05	



Certificate of Analytical Results 680246

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS24**
Lab Sample Id: 680246-001

Matrix: Soil
Date Collected: 12.08.2020 08:30

Date Received: 12.08.2020 13:56
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144263

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.08.2020 18:50	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.08.2020 18:50	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.08.2020 18:50	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.08.2020 18:50	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.08.2020 18:50	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.08.2020 18:50	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.08.2020 18:50	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.08.2020 18:50		
4-Bromofluorobenzene	460-00-4	92	%	70-130	12.08.2020 18:50		



Certificate of Analytical Results 680246

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: FS25 Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-002 Date Collected: 12.08.2020 08:35 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 15:30 % Moisture:
 Seq Number: 3144269 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2130	50.5	mg/kg	12.08.2020 17:26		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144261 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.08.2020 21:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.08.2020 21:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.08.2020 21:25	U	1
Total GRO-DRO	PHC628	<49.90	49.90	mg/kg	12.08.2020 21:25	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.08.2020 21:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	12.08.2020 21:25	
o-Terphenyl	84-15-1	103	%	70-135	12.08.2020 21:25	



Certificate of Analytical Results 680246

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS25**
Lab Sample Id: 680246-002

Matrix: Soil
Date Collected: 12.08.2020 08:35

Date Received: 12.08.2020 13:56
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144263

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.08.2020 19:13	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.08.2020 19:13	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.08.2020 19:13	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.08.2020 19:13	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.08.2020 19:13	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.08.2020 19:13	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.08.2020 19:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	12.08.2020 19:13	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.08.2020 19:13	



Certificate of Analytical Results 680246

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS26** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-003 Date Collected: 12.08.2020 08:40 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 15:30 % Moisture:
 Seq Number: 3144269 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3510	49.9	mg/kg	12.08.2020 17:31		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144261 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.08.2020 21:46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.08.2020 21:46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.08.2020 21:46	U	1
Total GRO-DRO	PHC628	<49.80	49.80	mg/kg	12.08.2020 21:46	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	12.08.2020 21:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	12.08.2020 21:46	
o-Terphenyl	84-15-1	111	%	70-135	12.08.2020 21:46	



Certificate of Analytical Results 680246

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS26**
Lab Sample Id: 680246-003

Matrix: Soil
Date Collected: 12.08.2020 08:40

Date Received: 12.08.2020 13:56
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144263

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.08.2020 19:35	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.08.2020 19:35	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.08.2020 19:35	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.08.2020 19:35	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.08.2020 19:35	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.08.2020 19:35	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.08.2020 19:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	93	%	70-130	12.08.2020 19:35	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.08.2020 19:35	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS27** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-004 Date Collected: 12.08.2020 08:45 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 15:30 % Moisture:
 Seq Number: 3144269 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	8630	49.9	mg/kg	12.08.2020 17:37		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144261 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.08.2020 22:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.08.2020 22:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.08.2020 22:05	U	1
Total GRO-DRO	PHC628	<50.20	50.20	mg/kg	12.08.2020 22:05	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.08.2020 22:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	97	%	70-135	12.08.2020 22:05	
o-Terphenyl	84-15-1	115	%	70-135	12.08.2020 22:05	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS27**
Lab Sample Id: 680246-004

Matrix: Soil
Date Collected: 12.08.2020 08:45

Date Received: 12.08.2020 13:56
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144263

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.08.2020 19:58	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.08.2020 19:58	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.08.2020 19:58	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.08.2020 19:58	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.08.2020 19:58	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.08.2020 19:58	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.08.2020 19:58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.08.2020 19:58		
4-Bromofluorobenzene	460-00-4	90	%	70-130	12.08.2020 19:58		



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JRU 21 SWD Riser

Sample Id: **FS28** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-005 Date Collected: 12.08.2020 08:50 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 15:30 % Moisture:
 Seq Number: 3144269 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5480	49.5	mg/kg	12.08.2020 17:42		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144261 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.08.2020 22:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.08.2020 22:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.08.2020 22:25	U	1
Total GRO-DRO	PHC628	<49.80	49.80	mg/kg	12.08.2020 22:25	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	12.08.2020 22:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	12.08.2020 22:25	
o-Terphenyl	84-15-1	116	%	70-135	12.08.2020 22:25	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS28**
Lab Sample Id: 680246-005

Matrix: Soil
Date Collected: 12.08.2020 08:50

Date Received: 12.08.2020 13:56
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144263

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.08.2020 20:20	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.08.2020 20:20	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.08.2020 20:20	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.08.2020 20:20	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.08.2020 20:20	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.08.2020 20:20	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.08.2020 20:20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.08.2020 20:20		
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.08.2020 20:20		



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JRU 21 SWD Riser

Sample Id: **FS29** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-006 Date Collected: 12.08.2020 08:55 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 15:30 % Moisture:
 Seq Number: 3144269 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1700	50.5	mg/kg	12.08.2020 17:59		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144261 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.08.2020 22:46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.08.2020 22:46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.08.2020 22:46	U	1
Total GRO-DRO	PHC628	<50.10	50.10	mg/kg	12.08.2020 22:46	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.08.2020 22:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	12.08.2020 22:46	
o-Terphenyl	84-15-1	108	%	70-135	12.08.2020 22:46	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS29**
Lab Sample Id: 680246-006

Matrix: Soil
Date Collected: 12.08.2020 08:55

Date Received: 12.08.2020 13:56
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144263

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.08.2020 20:42	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.08.2020 20:42	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.08.2020 20:42	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.08.2020 20:42	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.08.2020 20:42	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.08.2020 20:42	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.08.2020 20:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	12.08.2020 20:42	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.08.2020 20:42	



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JRU 21 SWD Riser

Sample Id: **FS30** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-007 Date Collected: 12.08.2020 09:00 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 15:30 % Moisture:
 Seq Number: 3144269 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	7190	49.8	mg/kg	12.08.2020 18:05		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144261 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.08.2020 23:06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.08.2020 23:06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.08.2020 23:06	U	1
Total GRO-DRO	PHC628	<49.90	49.90	mg/kg	12.08.2020 23:06	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.08.2020 23:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	121	%	70-135	12.08.2020 23:06	
o-Terphenyl	84-15-1	100	%	70-135	12.08.2020 23:06	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS30**
Lab Sample Id: 680246-007

Matrix: Soil
Date Collected: 12.08.2020 09:00

Date Received: 12.08.2020 13:56
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144263

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.08.2020 21:05	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.08.2020 21:05	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.08.2020 21:05	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.08.2020 21:05	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.08.2020 21:05	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.08.2020 21:05	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.08.2020 21:05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.08.2020 21:05		
4-Bromofluorobenzene	460-00-4	95	%	70-130	12.08.2020 21:05		



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JRU 21 SWD Riser

Sample Id: **FS31** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-008 Date Collected: 12.08.2020 09:05 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 15:30 % Moisture:
 Seq Number: 3144269 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4570	50.1	mg/kg	12.08.2020 18:10		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144261 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.08.2020 23:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.08.2020 23:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.08.2020 23:25	U	1
Total GRO-DRO	PHC628	<49.90	49.90	mg/kg	12.08.2020 23:25	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.08.2020 23:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	12.08.2020 23:25	
o-Terphenyl	84-15-1	96	%	70-135	12.08.2020 23:25	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS31**
Lab Sample Id: 680246-008

Matrix: Soil
Date Collected: 12.08.2020 09:05

Date Received: 12.08.2020 13:56
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144263

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.08.2020 22:23	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.08.2020 22:23	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.08.2020 22:23	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.08.2020 22:23	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.08.2020 22:23	U	1
Total Xylenes	1330-20-7	<0.002010	0.002010	mg/kg	12.08.2020 22:23	U	1
Total BTEX		<0.002010	0.002010	mg/kg	12.08.2020 22:23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.08.2020 22:23		
4-Bromofluorobenzene	460-00-4	91	%	70-130	12.08.2020 22:23		



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JRU 21 SWD Riser

Sample Id: **FS32** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-009 Date Collected: 12.08.2020 09:45 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 15:30 % Moisture:
 Seq Number: 3144269 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4170	50.1	mg/kg	12.08.2020 18:16		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144261 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.08.2020 23:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.08.2020 23:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.08.2020 23:45	U	1
Total GRO-DRO	PHC628	<50.10	50.10	mg/kg	12.08.2020 23:45	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.08.2020 23:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	12.08.2020 23:45	
o-Terphenyl	84-15-1	105	%	70-135	12.08.2020 23:45	



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JRU 21 SWD Riser

Sample Id: **FS32**
Lab Sample Id: 680246-009

Matrix: Soil
Date Collected: 12.08.2020 09:45

Date Received: 12.08.2020 13:56
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144263

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.08.2020 22:45	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.08.2020 22:45	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.08.2020 22:45	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.08.2020 22:45	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.08.2020 22:45	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.08.2020 22:45	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.08.2020 22:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.08.2020 22:45	
4-Bromofluorobenzene	460-00-4	96	%	70-130	12.08.2020 22:45	



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JRU 21 SWD Riser

Sample Id: **FS33** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-010 Date Collected: 12.08.2020 09:50 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 15:30 % Moisture:
 Seq Number: 3144269 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4500	50.1	mg/kg	12.08.2020 18:21		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144261 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.09.2020 00:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.09.2020 00:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.09.2020 00:25	U	1
Total GRO-DRO	PHC628	<50.10	50.10	mg/kg	12.09.2020 00:25	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.09.2020 00:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	12.09.2020 00:25	
o-Terphenyl	84-15-1	105	%	70-135	12.09.2020 00:25	



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JRU 21 SWD Riser

Sample Id: **FS33**
Lab Sample Id: 680246-010

Matrix: Soil
Date Collected: 12.08.2020 09:50

Date Received: 12.08.2020 13:56
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144263

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.08.2020 23:07	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.08.2020 23:07	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.08.2020 23:07	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.08.2020 23:07	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.08.2020 23:07	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.08.2020 23:07	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.08.2020 23:07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	92	%	70-130	12.08.2020 23:07		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.08.2020 23:07		



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JRU 21 SWD Riser

Sample Id: **FS34** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-011 Date Collected: 12.08.2020 09:55 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 15:30 % Moisture:
 Seq Number: 3144269 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	19.3	10.1	mg/kg	12.08.2020 18:27		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144261 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.09.2020 00:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.09.2020 00:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.09.2020 00:45	U	1
Total GRO-DRO	PHC628	<49.80	49.80	mg/kg	12.09.2020 00:45	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	12.09.2020 00:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	12.09.2020 00:45	
o-Terphenyl	84-15-1	113	%	70-135	12.09.2020 00:45	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS34**
Lab Sample Id: 680246-011

Matrix: Soil
Date Collected: 12.08.2020 09:55

Date Received: 12.08.2020 13:56
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144263

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.08.2020 23:30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.08.2020 23:30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.08.2020 23:30	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.08.2020 23:30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.08.2020 23:30	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.08.2020 23:30	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.08.2020 23:30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	96	%	70-130	12.08.2020 23:30		
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.08.2020 23:30		



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: FS35 Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-012 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: 12.08.2020 15:30 % Moisture:
 Seq Number: 3144269 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	21.5	10.1	mg/kg	12.08.2020 18:44		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144261 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.09.2020 01:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.09.2020 01:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.09.2020 01:05	U	1
Total GRO-DRO	PHC628	<50.20	50.20	mg/kg	12.09.2020 01:05	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.09.2020 01:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	12.09.2020 01:05	
o-Terphenyl	84-15-1	112	%	70-135	12.09.2020 01:05	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS35**
Lab Sample Id: 680246-012

Matrix: Soil
Date Collected: 12.08.2020 10:00

Date Received: 12.08.2020 13:56
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144263

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.08.2020 23:52	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.08.2020 23:52	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.08.2020 23:52	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.08.2020 23:52	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.08.2020 23:52	U	1
Total Xylenes	1330-20-7	<0.002010	0.002010	mg/kg	12.08.2020 23:52	U	1
Total BTEX		<0.002010	0.002010	mg/kg	12.08.2020 23:52	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.08.2020 23:52		
4-Bromofluorobenzene	460-00-4	91	%	70-130	12.08.2020 23:52		



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS36** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-013 Date Collected: 12.08.2020 10:05 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 15:30 % Moisture:
 Seq Number: 3144269 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	35.7	10.1	mg/kg	12.08.2020 18:49		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144261 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.09.2020 01:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.09.2020 01:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.09.2020 01:25	U	1
Total GRO-DRO	PHC628	<50.30	50.30	mg/kg	12.09.2020 01:25	U	1
Total TPH	PHC635	<50.30	50.30	mg/kg	12.09.2020 01:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	12.09.2020 01:25	
o-Terphenyl	84-15-1	112	%	70-135	12.09.2020 01:25	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS36**
Lab Sample Id: 680246-013

Matrix: Soil
Date Collected: 12.08.2020 10:05

Date Received: 12.08.2020 13:56
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144263

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.09.2020 00:14	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.09.2020 00:14	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.09.2020 00:14	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.09.2020 00:14	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.09.2020 00:14	U	1
Total Xylenes	1330-20-7	<0.002010	0.002010	mg/kg	12.09.2020 00:14	U	1
Total BTEX		<0.002010	0.002010	mg/kg	12.09.2020 00:14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.09.2020 00:14		
4-Bromofluorobenzene	460-00-4	91	%	70-130	12.09.2020 00:14		



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS37** Matrix: **Soil** Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-014 Date Collected: 12.08.2020 10:10 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: **MAB**
 Analyst: **MAB** Date Prep: 12.08.2020 15:30 % Moisture:
 Seq Number: 3144269 Basis: **Wet Weight**

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	76.6	9.94	mg/kg	12.08.2020 19:06		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: **CAC**
 Analyst: **CAC** Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144261 Basis: **Wet Weight**

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.09.2020 01:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.09.2020 01:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.09.2020 01:45	U	1
Total GRO-DRO	PHC628	<50.10	50.10	mg/kg	12.09.2020 01:45	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.09.2020 01:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	12.09.2020 01:45	
o-Terphenyl	84-15-1	120	%	70-135	12.09.2020 01:45	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: FS37
Lab Sample Id: 680246-014

Matrix: Soil
Date Collected: 12.08.2020 10:10

Date Received: 12.08.2020 13:56
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144263

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.09.2020 00:37	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.09.2020 00:37	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.09.2020 00:37	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.09.2020 00:37	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.09.2020 00:37	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.09.2020 00:37	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.09.2020 00:37	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	89	%	70-130	12.09.2020 00:37		
1,4-Difluorobenzene	540-36-3	94	%	70-130	12.09.2020 00:37		



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JRU 21 SWD Riser

Sample Id: **FS38** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-015 Date Collected: 12.08.2020 10:15 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 15:30 % Moisture:
 Seq Number: 3144269 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.4	10.1	mg/kg	12.08.2020 19:12		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144261 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.09.2020 02:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.09.2020 02:04	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.09.2020 02:04	U	1
Total GRO-DRO	PHC628	<49.90	49.90	mg/kg	12.09.2020 02:04	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.09.2020 02:04	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	12.09.2020 02:04	
o-Terphenyl	84-15-1	102	%	70-135	12.09.2020 02:04	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS38**
Lab Sample Id: 680246-015

Matrix: Soil
Date Collected: 12.08.2020 10:15

Date Received: 12.08.2020 13:56
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144263

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.09.2020 00:59	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.09.2020 00:59	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.09.2020 00:59	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.09.2020 00:59	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.09.2020 00:59	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.09.2020 00:59	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.09.2020 00:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	12.09.2020 00:59	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.09.2020 00:59	



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JRU 21 SWD Riser

Sample Id: **FS39** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-016 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: 12.08.2020 15:30 % Moisture:
 Seq Number: 3144269 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	28.7	10.0	mg/kg	12.08.2020 19:17		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144319 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.08.2020 20:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.08.2020 20:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.08.2020 20:05	U	1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.08.2020 20:05	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.08.2020 20:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	12.08.2020 20:05	
o-Terphenyl	84-15-1	104	%	70-135	12.08.2020 20:05	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS39**
Lab Sample Id: 680246-016

Matrix: Soil
Date Collected: 12.08.2020 10:20

Date Received: 12.08.2020 13:56
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144263

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.09.2020 01:22	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.09.2020 01:22	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.09.2020 01:22	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.09.2020 01:22	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.09.2020 01:22	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.09.2020 01:22	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.09.2020 01:22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	96	%	70-130	12.09.2020 01:22		
4-Bromofluorobenzene	460-00-4	91	%	70-130	12.09.2020 01:22		



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS40** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-017 Date Collected: 12.08.2020 10:50 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 15:30 % Moisture:
 Seq Number: 3144269 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	22.1	9.92	mg/kg	12.08.2020 19:23		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144319 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.08.2020 21:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.08.2020 21:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.08.2020 21:05	U	1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.08.2020 21:05	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.08.2020 21:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	12.08.2020 21:05	
o-Terphenyl	84-15-1	116	%	70-135	12.08.2020 21:05	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS40**
Lab Sample Id: 680246-017

Matrix: Soil
Date Collected: 12.08.2020 10:50

Date Received: 12.08.2020 13:56
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 13:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144263

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.09.2020 01:44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.09.2020 01:44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.09.2020 01:44	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.09.2020 01:44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.09.2020 01:44	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.09.2020 01:44	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.09.2020 01:44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.09.2020 01:44		
4-Bromofluorobenzene	460-00-4	93	%	70-130	12.09.2020 01:44		



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JRU 21 SWD Riser

Sample Id: **FS41** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-018 Date Collected: 12.08.2020 10:55 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 15:30 % Moisture:
 Seq Number: 3144269 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	172	9.96	mg/kg	12.08.2020 19:28		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144319 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.08.2020 21:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.08.2020 21:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.08.2020 21:25	U	1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.08.2020 21:25	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.08.2020 21:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	121	%	70-135	12.08.2020 21:25	
o-Terphenyl	84-15-1	100	%	70-135	12.08.2020 21:25	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS41**
Lab Sample Id: 680246-018

Matrix: Soil
Date Collected: 12.08.2020 10:55

Date Received: 12.08.2020 13:56
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 17:29

% Moisture:
Basis: Wet Weight

Seq Number: 3144268

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.08.2020 23:36	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.08.2020 23:36	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.08.2020 23:36	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.08.2020 23:36	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.08.2020 23:36	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.08.2020 23:36	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.08.2020 23:36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	109	%	70-130	12.08.2020 23:36		
4-Bromofluorobenzene	460-00-4	120	%	70-130	12.08.2020 23:36		



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS42** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-019 Date Collected: 12.08.2020 11:00 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 15:30 % Moisture:
 Seq Number: 3144269 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	190	9.96	mg/kg	12.08.2020 19:34		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144319 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.08.2020 21:46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.08.2020 21:46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.08.2020 21:46	U	1
Total GRO-DRO	PHC628	<49.80	49.80	mg/kg	12.08.2020 21:46	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	12.08.2020 21:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	12.08.2020 21:46	
o-Terphenyl	84-15-1	112	%	70-135	12.08.2020 21:46	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS42**
Lab Sample Id: 680246-019

Matrix: Soil
Date Collected: 12.08.2020 11:00

Date Received: 12.08.2020 13:56
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 17:29

% Moisture:
Basis: Wet Weight

Seq Number: 3144268

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.08.2020 23:58	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.08.2020 23:58	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.08.2020 23:58	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.08.2020 23:58	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.08.2020 23:58	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.08.2020 23:58	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.08.2020 23:58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.08.2020 23:58		
4-Bromofluorobenzene	460-00-4	122	%	70-130	12.08.2020 23:58		



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS43** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-020 Date Collected: 12.08.2020 11:05 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 15:30 % Moisture:
 Seq Number: 3144269 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	954	10.0	mg/kg	12.08.2020 19:39		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144319 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.08.2020 22:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.08.2020 22:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.08.2020 22:05	U	1
Total GRO-DRO	PHC628	<50.10	50.10	mg/kg	12.08.2020 22:05	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.08.2020 22:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	130	%	70-135	12.08.2020 22:05	
o-Terphenyl	84-15-1	108	%	70-135	12.08.2020 22:05	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS43**
Lab Sample Id: 680246-020

Matrix: Soil
Date Collected: 12.08.2020 11:05

Date Received: 12.08.2020 13:56
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 17:29

% Moisture:
Basis: Wet Weight

Seq Number: 3144268

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.09.2020 00:21	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.09.2020 00:21	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.09.2020 00:21	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.09.2020 00:21	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.09.2020 00:21	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.09.2020 00:21	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.09.2020 00:21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.09.2020 00:21		
4-Bromofluorobenzene	460-00-4	125	%	70-130	12.09.2020 00:21		



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS44** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-021 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: 12.08.2020 17:10 % Moisture:
 Seq Number: 3144391 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.90	9.90	mg/kg	12.09.2020 09:55	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144319 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.08.2020 22:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.08.2020 22:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.08.2020 22:25	U	1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.08.2020 22:25	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.08.2020 22:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	12.08.2020 22:25	
o-Terphenyl	84-15-1	103	%	70-135	12.08.2020 22:25	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS44**
Lab Sample Id: 680246-021

Matrix: Soil
Date Collected: 12.08.2020 11:10

Date Received: 12.08.2020 13:56
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 17:29

% Moisture:
Basis: Wet Weight

Seq Number: 3144268

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.09.2020 00:43	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.09.2020 00:43	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.09.2020 00:43	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.09.2020 00:43	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.09.2020 00:43	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.09.2020 00:43	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.09.2020 00:43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	119	%	70-130	12.09.2020 00:43		
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.09.2020 00:43		



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS45** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-022 Date Collected: 12.08.2020 11:15 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 17:10 % Moisture:
 Seq Number: 3144391 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	162	10.1	mg/kg	12.09.2020 10:12		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144319 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.08.2020 22:46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.08.2020 22:46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.08.2020 22:46	U	1
Total GRO-DRO	PHC628	<49.90	49.90	mg/kg	12.08.2020 22:46	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.08.2020 22:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	12.08.2020 22:46	
o-Terphenyl	84-15-1	109	%	70-135	12.08.2020 22:46	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS45**
Lab Sample Id: 680246-022

Matrix: Soil
Date Collected: 12.08.2020 11:15

Date Received: 12.08.2020 13:56
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 17:29

% Moisture:
Basis: Wet Weight

Seq Number: 3144268

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.09.2020 01:06	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.09.2020 01:06	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.09.2020 01:06	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.09.2020 01:06	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.09.2020 01:06	U	1
Total Xylenes	1330-20-7	<0.002010	0.002010	mg/kg	12.09.2020 01:06	U	1
Total BTEX		<0.002010	0.002010	mg/kg	12.09.2020 01:06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.09.2020 01:06		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.09.2020 01:06		



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS46** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-023 Date Collected: 12.08.2020 11:20 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 17:10 % Moisture:
 Seq Number: 3144391 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	276	10.1	mg/kg	12.09.2020 10:17		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144319 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.08.2020 23:06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.08.2020 23:06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.08.2020 23:06	U	1
Total GRO-DRO	PHC628	<50.10	50.10	mg/kg	12.08.2020 23:06	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.08.2020 23:06	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	12.08.2020 23:06	
o-Terphenyl	84-15-1	113	%	70-135	12.08.2020 23:06	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS46**
Lab Sample Id: 680246-023

Matrix: Soil
Date Collected: 12.08.2020 11:20

Date Received: 12.08.2020 13:56
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 17:29

% Moisture:
Basis: Wet Weight

Seq Number: 3144268

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.09.2020 01:28	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.09.2020 01:28	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.09.2020 01:28	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.09.2020 01:28	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.09.2020 01:28	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.09.2020 01:28	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.09.2020 01:28	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.09.2020 01:28		
4-Bromofluorobenzene	460-00-4	118	%	70-130	12.09.2020 01:28		



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS47** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-024 Date Collected: 12.08.2020 11:25 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 17:10 % Moisture:
 Seq Number: 3144391 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.2	10.0	mg/kg	12.09.2020 10:23		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144319 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.08.2020 23:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.08.2020 23:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.08.2020 23:25	U	1
Total GRO-DRO	PHC628	<49.90	49.90	mg/kg	12.08.2020 23:25	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.08.2020 23:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.08.2020 23:25	
o-Terphenyl	84-15-1	114	%	70-135	12.08.2020 23:25	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS47**
Lab Sample Id: 680246-024

Matrix: Soil
Date Collected: 12.08.2020 11:25

Date Received: 12.08.2020 13:56
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 17:29

% Moisture:
Basis: Wet Weight

Seq Number: 3144268

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.09.2020 01:51	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.09.2020 01:51	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.09.2020 01:51	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.09.2020 01:51	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.09.2020 01:51	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.09.2020 01:51	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.09.2020 01:51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	108	%	70-130	12.09.2020 01:51		
4-Bromofluorobenzene	460-00-4	123	%	70-130	12.09.2020 01:51		



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS48** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-025 Date Collected: 12.08.2020 12:10 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 17:10 % Moisture:
 Seq Number: 3144391 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	64.0	10.0	mg/kg	12.09.2020 10:28		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144319 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.08.2020 23:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.08.2020 23:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.08.2020 23:45	U	1
Total GRO-DRO	PHC628	<49.80	49.80	mg/kg	12.08.2020 23:45	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	12.08.2020 23:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	126	%	70-135	12.08.2020 23:45	
o-Terphenyl	84-15-1	117	%	70-135	12.08.2020 23:45	



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LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS48**
Lab Sample Id: 680246-025

Matrix: Soil
Date Collected: 12.08.2020 12:10

Date Received: 12.08.2020 13:56
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 17:29

% Moisture:
Basis: Wet Weight

Seq Number: 3144268

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.09.2020 02:13	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.09.2020 02:13	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.09.2020 02:13	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.09.2020 02:13	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.09.2020 02:13	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.09.2020 02:13	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.09.2020 02:13	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.09.2020 02:13		
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.09.2020 02:13		



Certificate of Analytical Results 680246

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS49** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-026 Date Collected: 12.08.2020 12:15 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 17:10 % Moisture:
 Seq Number: 3144391 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	68.6	10.0	mg/kg	12.09.2020 10:45		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144319 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.09.2020 00:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.09.2020 00:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.09.2020 00:25	U	1
Total GRO-DRO	PHC628	<50.10	50.10	mg/kg	12.09.2020 00:25	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.09.2020 00:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	102	%	70-135	12.09.2020 00:25	
o-Terphenyl	84-15-1	116	%	70-135	12.09.2020 00:25	



Certificate of Analytical Results 680246

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS49**
Lab Sample Id: 680246-026

Matrix: Soil
Date Collected: 12.08.2020 12:15

Date Received: 12.08.2020 13:56
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 17:29

% Moisture:
Basis: Wet Weight

Seq Number: 3144268

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.09.2020 02:36	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.09.2020 02:36	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.09.2020 02:36	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.09.2020 02:36	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.09.2020 02:36	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.09.2020 02:36	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.09.2020 02:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	122	%	70-130	12.09.2020 02:36	
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.09.2020 02:36	



Certificate of Analytical Results 680246

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS50** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-027 Date Collected: 12.08.2020 12:20 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 17:10 % Moisture:
 Seq Number: 3144391 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	52.3	9.94	mg/kg	12.09.2020 10:51		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144319 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.09.2020 00:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.09.2020 00:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.09.2020 00:45	U	1
Total GRO-DRO	PHC628	<49.80	49.80	mg/kg	12.09.2020 00:45	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	12.09.2020 00:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.09.2020 00:45	
o-Terphenyl	84-15-1	113	%	70-135	12.09.2020 00:45	



Certificate of Analytical Results 680246

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS50**
Lab Sample Id: 680246-027

Matrix: Soil
Date Collected: 12.08.2020 12:20

Date Received: 12.08.2020 13:56
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 17:29

% Moisture:
Basis: Wet Weight

Seq Number: 3144268

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.09.2020 02:58	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.09.2020 02:58	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.09.2020 02:58	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.09.2020 02:58	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.09.2020 02:58	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.09.2020 02:58	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.09.2020 02:58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	108	%	70-130	12.09.2020 02:58		
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.09.2020 02:58		



Certificate of Analytical Results 680246

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS51** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-028 Date Collected: 12.08.2020 12:25 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 17:10 % Moisture:
 Seq Number: 3144391 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5790	49.9	mg/kg	12.09.2020 10:56		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144319 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.09.2020 01:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.09.2020 01:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.09.2020 01:05	U	1
Total GRO-DRO	PHC628	<50.20	50.20	mg/kg	12.09.2020 01:05	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.09.2020 01:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	12.09.2020 01:05	
o-Terphenyl	84-15-1	111	%	70-135	12.09.2020 01:05	



Certificate of Analytical Results 680246

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS51**
Lab Sample Id: 680246-028

Matrix: Soil
Date Collected: 12.08.2020 12:25

Date Received: 12.08.2020 13:56
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 17:29

% Moisture:
Basis: Wet Weight

Seq Number: 3144268

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.09.2020 04:18	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.09.2020 04:18	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.09.2020 04:18	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.09.2020 04:18	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.09.2020 04:18	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.09.2020 04:18	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.09.2020 04:18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	119	%	70-130	12.09.2020 04:18		
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.09.2020 04:18		



Certificate of Analytical Results 680246

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: FS52 Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-029 Date Collected: 12.08.2020 12:30 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 17:10 % Moisture:
 Seq Number: 3144391 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	27.1	9.98	mg/kg	12.09.2020 11:02		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144319 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.09.2020 01:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.09.2020 01:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.09.2020 01:25	U	1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.09.2020 01:25	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.09.2020 01:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	119	%	70-135	12.09.2020 01:25	
o-Terphenyl	84-15-1	101	%	70-135	12.09.2020 01:25	



Certificate of Analytical Results 680246

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: FS52
Lab Sample Id: 680246-029

Matrix: Soil
Date Collected: 12.08.2020 12:30

Date Received: 12.08.2020 13:56
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 17:29

% Moisture:
Basis: Wet Weight

Seq Number: 3144268

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.09.2020 04:40	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.09.2020 04:40	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.09.2020 04:40	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.09.2020 04:40	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.09.2020 04:40	U	1
Total Xylenes	1330-20-7	<0.002010	0.002010	mg/kg	12.09.2020 04:40	U	1
Total BTEX		<0.002010	0.002010	mg/kg	12.09.2020 04:40	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.09.2020 04:40		
4-Bromofluorobenzene	460-00-4	112	%	70-130	12.09.2020 04:40		



Certificate of Analytical Results 680246

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS53** Matrix: Soil Date Received: 12.08.2020 13:56
 Lab Sample Id: 680246-030 Date Collected: 12.08.2020 12:35 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.08.2020 17:10 % Moisture:
 Seq Number: 3144391 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	25.4	9.96	mg/kg	12.09.2020 11:07		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.08.2020 17:00 % Moisture:
 Seq Number: 3144319 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.09.2020 01:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.09.2020 01:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.09.2020 01:45	U	1
Total GRO-DRO	PHC628	<49.90	49.90	mg/kg	12.09.2020 01:45	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.09.2020 01:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	116	%	70-135	12.09.2020 01:45	
o-Terphenyl	84-15-1	102	%	70-135	12.09.2020 01:45	



Certificate of Analytical Results 680246

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS53**
Lab Sample Id: 680246-030

Matrix: Soil
Date Collected: 12.08.2020 12:35

Date Received: 12.08.2020 13:56
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 17:29

% Moisture:
Basis: Wet Weight

Seq Number: 3144268

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.09.2020 05:03	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.09.2020 05:03	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.09.2020 05:03	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.09.2020 05:03	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.09.2020 05:03	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.09.2020 05:03	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.09.2020 05:03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	122	%	70-130	12.09.2020 05:03		
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.09.2020 05:03		

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



LT Environmental, Inc.

JRU 21 SWD Riser

Analytical Method: Chloride by EPA 300

Seq Number: 3144269

MB Sample Id: 7716658-1-BLK

Matrix: Solid

LCS Sample Id: 7716658-1-BKS

Prep Method: E300P

Date Prep: 12.08.2020

LCSD Sample Id: 7716658-1-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	243	97	243	97	90-110	0	20	mg/kg	12.08.2020 16:58	

Analytical Method: Chloride by EPA 300

Seq Number: 3144391

MB Sample Id: 7716659-1-BLK

Matrix: Solid

LCS Sample Id: 7716659-1-BKS

Prep Method: E300P

Date Prep: 12.08.2020

LCSD Sample Id: 7716659-1-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	243	97	242	97	90-110	0	20	mg/kg	12.09.2020 09:44	

Analytical Method: Chloride by EPA 300

Seq Number: 3144269

Parent Sample Id: 680246-001

Matrix: Soil

MS Sample Id: 680246-001 S

Prep Method: E300P

Date Prep: 12.08.2020

MSD Sample Id: 680246-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	357	201	543	93	554	98	90-110	2	20	mg/kg	12.08.2020 17:14	

Analytical Method: Chloride by EPA 300

Seq Number: 3144269

Parent Sample Id: 680246-011

Matrix: Soil

MS Sample Id: 680246-011 S

Prep Method: E300P

Date Prep: 12.08.2020

MSD Sample Id: 680246-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	19.3	202	221	100	218	100	90-110	1	20	mg/kg	12.08.2020 18:33	

Analytical Method: Chloride by EPA 300

Seq Number: 3144391

Parent Sample Id: 680246-021

Matrix: Soil

MS Sample Id: 680246-021 S

Prep Method: E300P

Date Prep: 12.08.2020

MSD Sample Id: 680246-021 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.1	202	200	99	200	99	90-110	0	20	mg/kg	12.09.2020 10:00	

Analytical Method: Chloride by EPA 300

Seq Number: 3144391

Parent Sample Id: 680280-001

Matrix: Soil

MS Sample Id: 680280-001 S

Prep Method: E300P

Date Prep: 12.08.2020

MSD Sample Id: 680280-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	1220	202	1410	94	1440	109	90-110	2	20	mg/kg	12.09.2020 11:18	

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

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

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

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



LT Environmental, Inc.

JRU 21 SWD Riser

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144261

MB Sample Id: 7716670-1-BLK

Matrix: Solid

LCS Sample Id: 7716670-1-BKS

Prep Method: SW8015P

Date Prep: 12.08.2020

LCSD Sample Id: 7716670-1-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	1120	112	70-135	6	35	mg/kg	12.08.2020 19:25	
Diesel Range Organics (DRO)	<50.0	1000	1090	109	1150	115	70-135	5	35	mg/kg	12.08.2020 19:25	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	107		81		104		70-135	%	12.08.2020 19:25
o-Terphenyl	106		70		116		70-135	%	12.08.2020 19:25

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144319

MB Sample Id: 7716673-1-BLK

Matrix: Solid

LCS Sample Id: 7716673-1-BKS

Prep Method: SW8015P

Date Prep: 12.08.2020

LCSD Sample Id: 7716673-1-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	1030	103	1240	124	70-135	19	35	mg/kg	12.08.2020 19:25	
Diesel Range Organics (DRO)	<50.0	1000	1210	121	1110	111	70-135	9	35	mg/kg	12.08.2020 19:25	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	100		132		93		70-135	%	12.08.2020 19:25
o-Terphenyl	110		117		115		70-135	%	12.08.2020 19:25

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144261

Matrix: Solid

MB Sample Id: 7716670-1-BLK

Prep Method: SW8015P

Date Prep: 12.08.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.08.2020 19:05	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144319

Matrix: Solid

MB Sample Id: 7716673-1-BLK

Prep Method: SW8015P

Date Prep: 12.08.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.08.2020 19:05	

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

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

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

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



LT Environmental, Inc.

JRU 21 SWD Riser

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144261

Parent Sample Id: 680246-001

Matrix: Soil

MS Sample Id: 680246-001 S

Prep Method: SW8015P

Date Prep: 12.08.2020

MSD Sample Id: 680246-001 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	1060	106	70-135	6	35	mg/kg	12.08.2020 20:25	
Diesel Range Organics (DRO)	<50.2	1000	1000	100	1070	107	70-135	7	35	mg/kg	12.08.2020 20:25	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	103		102		70-135	%	12.08.2020 20:25
o-Terphenyl	116		114		70-135	%	12.08.2020 20:25

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144319

Parent Sample Id: 680246-016

Matrix: Soil

MS Sample Id: 680246-016 S

Prep Method: SW8015P

Date Prep: 12.08.2020

MSD Sample Id: 680246-016 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	1090	110	1160	116	70-135	6	35	mg/kg	12.08.2020 20:25	
Diesel Range Organics (DRO)	<49.8	995	993	100	1070	107	70-135	7	35	mg/kg	12.08.2020 20:25	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	101		96		70-135	%	12.08.2020 20:25
o-Terphenyl	105		106		70-135	%	12.08.2020 20:25

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144263

MB Sample Id: 7716665-1-BLK

Matrix: Solid

LCS Sample Id: 7716665-1-BKS

Prep Method: SW5035A

Date Prep: 12.08.2020

LCSD Sample Id: 7716665-1-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	0.101	101	70-130	0	35	mg/kg	12.08.2020 15:41	
Toluene	<0.00200	0.100	0.0962	96	0.0966	97	70-130	0	35	mg/kg	12.08.2020 15:41	
Ethylbenzene	<0.00200	0.100	0.0900	90	0.0893	89	71-129	1	35	mg/kg	12.08.2020 15:41	
m,p-Xylenes	<0.00400	0.200	0.182	91	0.181	91	70-135	1	35	mg/kg	12.08.2020 15:41	
o-Xylene	<0.00200	0.100	0.0897	90	0.0906	91	71-133	1	35	mg/kg	12.08.2020 15:41	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	97		96		95		70-130	%	12.08.2020 15:41
4-Bromofluorobenzene	85		87		85		70-130	%	12.08.2020 15:41

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

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

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

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



LT Environmental, Inc.
JRU 21 SWD Riser

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144268

Matrix: Solid

Prep Method: SW5035A

Date Prep: 12.08.2020

MB Sample Id: 7716663-1-BLK

LCS Sample Id: 7716663-1-BKS

LCSD Sample Id: 7716663-1-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	0.0946	95	0.0992	99	70-130	5	35	mg/kg	12.08.2020 21:09	
Toluene	<0.00200	0.100	0.0881	88	0.0923	92	70-130	5	35	mg/kg	12.08.2020 21:09	
Ethylbenzene	<0.00200	0.100	0.0903	90	0.0976	98	71-129	8	35	mg/kg	12.08.2020 21:09	
m,p-Xylenes	<0.00400	0.200	0.186	93	0.199	100	70-135	7	35	mg/kg	12.08.2020 21:09	
o-Xylene	<0.00200	0.100	0.0923	92	0.101	101	71-133	9	35	mg/kg	12.08.2020 21:09	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	109		98		100		70-130	%	12.08.2020 21:09
4-Bromofluorobenzene	124		104		108		70-130	%	12.08.2020 21:09

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144263

Matrix: Soil

Prep Method: SW5035A

Date Prep: 12.08.2020

Parent Sample Id: 679854-006

MS Sample Id: 679854-006 S

MSD Sample Id: 679854-006 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	0.102	102	0.119	119	70-130	15	35	mg/kg	12.08.2020 16:26	
Toluene	<0.00200	0.100	0.0989	99	0.115	115	70-130	15	35	mg/kg	12.08.2020 16:26	
Ethylbenzene	<0.00200	0.100	0.0925	93	0.108	108	71-129	15	35	mg/kg	12.08.2020 16:26	
m,p-Xylenes	<0.00401	0.200	0.189	95	0.221	111	70-135	16	35	mg/kg	12.08.2020 16:26	
o-Xylene	<0.00200	0.100	0.0915	92	0.108	108	71-133	17	35	mg/kg	12.08.2020 16:26	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		95		70-130	%	12.08.2020 16:26
4-Bromofluorobenzene	90		89		70-130	%	12.08.2020 16:26

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144268

Matrix: Soil

Prep Method: SW5035A

Date Prep: 12.08.2020

Parent Sample Id: 680246-018

MS Sample Id: 680246-018 S

MSD Sample Id: 680246-018 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	0.0965	97	0.0968	96	70-130	0	35	mg/kg	12.08.2020 21:54	
Toluene	<0.00199	0.0996	0.0902	91	0.0888	88	70-130	2	35	mg/kg	12.08.2020 21:54	
Ethylbenzene	<0.00199	0.0996	0.0948	95	0.0927	92	71-129	2	35	mg/kg	12.08.2020 21:54	
m,p-Xylenes	<0.00398	0.199	0.193	97	0.192	96	70-135	1	35	mg/kg	12.08.2020 21:54	
o-Xylene	<0.00199	0.0996	0.0959	96	0.0948	94	71-133	1	35	mg/kg	12.08.2020 21:54	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		100		70-130	%	12.08.2020 21:54
4-Bromofluorobenzene	110		109		70-130	%	12.08.2020 21:54

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

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

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

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



Chain of Custody

Work Order No: 1680246

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
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000

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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:	522 West Mermond
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	lenaka@ltenv.com, dmoir@ltenv.com

Program: UST/PST	☐ RP	☐ Crowfields	☐ RC	☐ \$perfund
State of Project:				
Reporting Level II	☐ Level III	☐ \$T/UST	☐ RP	☐ Level IV
Deliverables: EDD	☐ ADAPT	☐ Other:		

Project Name:	JRU 21 SMD RSR	Turn Around	
Project Number:	TE 012920074	Routine	☒
P.O. Number:	Eddy County	Rush:	
Sampler's Name:	Elizabeth Naka	Due Date:	

SAMPLE RECEIPT	Temp Blank:	☒ Yes	No	Well Ice:	☒ Yes	No
Temperature (°C):	0.4/0.2	Thermometer ID				
Received Intact:	☒ Yes	No	Correction Factor: -0.2			
Cooler Custody Seals:	Yes	No	N/A	Total Containers:		
Sample Custody Seals:	Yes	No	N/A	30		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	ANALYSIS REQUEST										Work Order Notes
FS24	S	12/08/20	0830	4'	Number of Containers	TPH (EPA 8015)	BTX (EPA 0-8021)	Chloride (EPA 300.0)							
FS25			0835			☒	☒	☒							
FS26			0840			☒	☒	☒							
FS27			0845			☒	☒	☒							
FS28			0850			☒	☒	☒							
FS29			0855			☒	☒	☒							
FS30			0900			☒	☒	☒							
FS31			0905			☒	☒	☒							
FS32			0945			☒	☒	☒							
FS33			0950			☒	☒	☒							

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

Sample Comments: completed

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 Ti 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 Ti 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
<i>Elizabeth Naka</i>	<i>Joe Cuffe</i>	12-8-20 1356			



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)

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Work Order No: 1680246

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:	522 West Mermond
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	enaka@ltenv.com, dmoir@ltenv.com

Program: UST/PST ☐ RP ☐ Trowfields ☐ RC ☐ Rfund ☐	
State of Project:	
Reporting Level II ☐ Level III ☐ ST/UST ☐ RP ☐ Level IV ☐	
Deliverables: EDD ☐ ADAPT ☐ Other: ☐	

Project Name:	JRU 21 SWD Pscr	Turn Around	
Project Number:	TE92920074	Routine	☒
P.O. Number:	Eddy County	Rush:	
Sampler's Name:	Elizabeth Naka	Due Date:	

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EP)	BTEX (E)	Chloride																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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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 Ti Sn U V Zn
Circle Method(s) and Metal(s) to be analyzed	TCPLP / SPLP 6010:	8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti 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
<i>Elizabeth Naka</i>	<i>Joe Ciffo</i>	12-8-20 1350			



Chain of Custody

Work Order No: 1680246

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 3 of 3

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Little
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	522 West Mermond
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	enaka@ltenv.com, dmoir@ltenv.com

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

Project Name:	SEU 21 SWD 8.50	Turn Around	
Project Number:	TE01292074	Routine	☒
P.O. Number:		Rush:	
Sampler's Name:	Elizabeth Naka	Due Date:	

Temperature (°C):		Temp Blank:	Yes	No	Wet Ice:	Yes	No
Received In tact:	Yes	No			Thermometer ID		
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			ANALYSIS REQUEST										Work Order Notes
					TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)											
FS44	S	12/08/20	11:10	2'	☒	☒	☒											TAT starts the day received by the lab, if received by 4:30pm
FS45			11:15		☒	☒	☒											
FS46			11:20		☒	☒	☒											
FS47			11:25		☒	☒	☒											
FS48			12:10		☒	☒	☒											
FS49			12:15		☒	☒	☒											
FS50			12:20	4'	☒	☒	☒											Sample Comments
FS51			12:25		☒	☒	☒											
FS52			12:30	2'	☒	☒	☒											
FS53			12:35	2'	☒	☒	☒											

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 Ti 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 Ti 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 \$8 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
<i>Yipster Naka</i>	<i>Coe Cuffee</i>	12.8.28 1356			

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 12.08.2020 01:56.00 PM

Work Order #: 680246

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

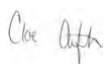
Samples received in bulk containers.

*** 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: 12.08.2020

Checklist reviewed by:



Jessica Kramer

Date: 12.09.2020

Certificate of Analysis Summary 680487



WSP USA, Dallas, TX

Project Name: JRU 21 SWD Riser

Project Id: TE012920074
Contact: Dan Moir
Project Location: Eddy County, New Mexico

Date Received in Lab: Wed 12.09.2020 16:40
Report Date: 12.15.2020 11:46
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	680487-001		680487-002		680487-003		680487-004		680487-005		680487-006	
	Field Id:	FS54		FS55		FS56		FS57		FS58		FS59	
	Depth:	4- ft		4- ft		2- ft		2- ft		2- ft		2- ft	
	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Sampled:	12.09.2020 10:25		12.09.2020 11:00		12.09.2020 11:30		12.09.2020 11:35		12.09.2020 11:40		12.09.2020 11:45	
BTEX by EPA 8021B	Extracted:	12.10.2020 17:03		12.10.2020 17:03		12.10.2020 17:03		12.10.2020 17:03		12.10.2020 17:03		12.10.2020 17:03	
	Analyzed:	12.11.2020 02:22		12.11.2020 02:44		12.11.2020 03:07		12.11.2020 03:29		12.11.2020 03:51		12.11.2020 04:14	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Benzene		<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202
Toluene		<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202
Ethylbenzene		<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202
m,p-Xylenes		<0.00401	0.00401	<0.00403	0.00403	<0.00404	0.00404	<0.00398	0.00398	<0.00399	0.00399	<0.00403	0.00403
o-Xylene		<0.00200	0.00200	<0.00202	0.00202	<0.00202	0.00202	<0.00199	0.00199	<0.00200	0.00200	<0.00202	0.00202
Total Xylenes		<0.002000	0.002000	<0.002020	0.002020	<0.002020	0.002020	<0.001990	0.001990	<0.002000	0.002000	<0.002020	0.002020
Total BTEX		<0.002000	0.002000	<0.002020	0.002020	<0.002020	0.002020	<0.001990	0.001990	<0.002000	0.002000	<0.002020	0.002020
Chloride by EPA 300	Extracted:	12.10.2020 15:45		12.10.2020 15:45		12.10.2020 15:45		12.10.2020 15:45		12.10.2020 15:45		12.10.2020 15:45	
	Analyzed:	12.10.2020 19:21		12.10.2020 19:38		12.10.2020 19:43		12.10.2020 19:49		12.10.2020 19:54		12.10.2020 20:11	
	Units/RL:	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL	mg/kg	RL
Chloride		402	9.92	517	10.0	130	10.0	111	10.0	140	9.94	18.5	10.1
TPH by SW8015 Mod	Extracted:	12.10.2020 17:00		12.10.2020 17:00		12.10.2020 17:00		12.10.2020 17:00		12.10.2020 17:00		12.10.2020 17:00	
	Analyzed:	12.11.2020 14:30		12.11.2020 15:31		12.11.2020 15:52		12.11.2020 16:12		12.11.2020 16:33		12.11.2020 16:53	
	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	<50.2	50.2	<50.1	50.1	<50.1	50.1	<50.2	50.2
Diesel Range Organics (DRO)		<50.0	50.0	<49.8	49.8	<50.2	50.2	<50.1	50.1	<50.1	50.1	<50.2	50.2
Motor Oil Range Hydrocarbons (MRO)		<50.0	50.0	<49.8	49.8	<50.2	50.2	<50.1	50.1	<50.1	50.1	<50.2	50.2
Total GRO-DRO		<50.00	50.00	<49.80	49.80	<50.20	50.20	<50.10	50.10	<50.10	50.10	<50.20	50.20
Total TPH		<50.00	50.00	<49.80	49.80	<50.20	50.20	<50.10	50.10	<50.10	50.10	<50.20	50.20

BRL - Below Reporting Limit

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

Certificate of Analysis Summary 680487



WSP USA, Dallas, TX

Project Name: JRU 21 SWD Riser

Project Id: TE012920074
Contact: Dan Moir
Project Location: Eddy County, New Mexico

Date Received in Lab: Wed 12.09.2020 16:40
Report Date: 12.15.2020 11:46
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	680487-007	680487-008	680487-009	680487-010	680487-011	680487-012
	<i>Field Id:</i>	FS60	FS61	FS62	FS63	FS64	SW08
	<i>Depth:</i>	4- ft	4- ft	4- ft	4- ft	4- ft	0-4 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.09.2020 12:55	12.09.2020 13:00	12.09.2020 13:50	12.09.2020 13:55	12.09.2020 14:20	12.09.2020 10:30
BTEX by EPA 8021B	<i>Extracted:</i>	12.10.2020 17:03	12.10.2020 17:03	12.10.2020 17:03	12.10.2020 17:03	12.10.2020 17:03	12.10.2020 17:03
	<i>Analyzed:</i>	12.11.2020 04:36	12.11.2020 04:59	12.11.2020 05:21	12.11.2020 05:43	12.11.2020 07:03	12.11.2020 07:26
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00202 0.00202
Toluene		<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00202 0.00202
Ethylbenzene		<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00202 0.00202
m,p-Xylenes		<0.00397 0.00397	<0.00399 0.00399	<0.00398 0.00398	<0.00399 0.00399	<0.00397 0.00397	<0.00403 0.00403
o-Xylene		<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00202 0.00202
Total Xylenes		<0.001980 0.001980	<0.002000 0.002000	<0.001990 0.001990	<0.002000 0.002000	<0.001980 0.001980	<0.002020 0.002020
Total BTEX		<0.001980 0.001980	<0.002000 0.002000	<0.001990 0.001990	<0.002000 0.002000	<0.001980 0.001980	<0.002020 0.002020
Chloride by EPA 300	<i>Extracted:</i>	12.10.2020 15:45	12.10.2020 15:45	12.10.2020 15:45	12.10.2020 15:45	12.10.2020 15:45	12.10.2020 15:45
	<i>Analyzed:</i>	12.10.2020 20:17	12.10.2020 20:22	12.10.2020 20:28	12.10.2020 20:33	12.10.2020 20:39	12.10.2020 20:56
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		2290 49.7	1950 49.9	3170 49.9	3570 49.6	398 9.90	247 9.98
TPH by SW8015 Mod	<i>Extracted:</i>	12.10.2020 17:00	12.10.2020 17:00	12.10.2020 17:00	12.10.2020 17:00	12.10.2020 17:00	12.10.2020 12:00
	<i>Analyzed:</i>	12.11.2020 17:13	12.11.2020 17:34	12.11.2020 17:54	12.11.2020 18:14	12.11.2020 18:55	12.11.2020 12:07
	<i>Units/RL:</i>	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	<49.9 49.9	<50.2 50.2	<50.3 50.3	<50.1 50.1	<50.1 50.1
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<50.2 50.2	<50.3 50.3	<50.1 50.1	<50.1 50.1
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<50.2 50.2	<50.3 50.3	<50.1 50.1	<50.1 50.1
Total GRO-DRO		<50.00 50.00	<49.90 49.90	<50.20 50.20	<50.30 50.30	<50.10 50.10	<50.10 50.10
Total TPH		<50.00 50.00	<49.90 49.90	<50.20 50.20	<50.30 50.30	<50.10 50.10	<50.10 50.10

BRL - Below Reporting Limit

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

Certificate of Analysis Summary 680487



WSP USA, Dallas, TX

Project Name: JRU 21 SWD Riser

Project Id: TE012920074
Contact: Dan Moir
Project Location: Eddy County, New Mexico

Date Received in Lab: Wed 12.09.2020 16:40
Report Date: 12.15.2020 11:46
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	680487-013	680487-014				
	Field Id:	SW09	SW10				
	Depth:	0-4 ft	0-4 ft				
	Matrix:	SOIL	SOIL				
	Sampled:	12.09.2020 11:05	12.09.2020 13:20				
BTEX by EPA 8021B	Extracted:	12.10.2020 17:03	12.10.2020 17:03				
	Analyzed:	12.11.2020 07:48	12.11.2020 08:10				
	Units/RL:	mg/kg RL	mg/kg RL				
		<0.00202 0.00202	<0.00199 0.00199				
Benzene							
Toluene							
Ethylbenzene							
m,p-Xylenes							
o-Xylene							
Total Xylenes							
Total BTEX							
Chloride by EPA 300	Extracted:	12.10.2020 15:45	12.10.2020 15:45				
	Analyzed:	12.10.2020 21:01	12.10.2020 21:18				
	Units/RL:	mg/kg RL	mg/kg RL				
		310 9.98	66.1 9.92				
Chloride							
TPH by SW8015 Mod	Extracted:	12.10.2020 12:00	12.10.2020 12:00				
	Analyzed:	12.11.2020 12:28	12.11.2020 12:48				
	Units/RL:	mg/kg RL	mg/kg RL				
		<49.8 49.8	<50.2 50.2				
Gasoline Range Hydrocarbons (GRO)							
Diesel Range Organics (DRO)							
Motor Oil Range Hydrocarbons (MRO)							
Total GRO-DRO							
Total TPH							

BRL - Below Reporting Limit

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



Analytical Report 680487

for

WSP USA

Project Manager: Dan Moir

JRU 21 SWD Riser

TE012920074

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: TN102385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



12.15.2020

Project Manager: **Dan Moir**

WSP USA

2777 N. Stemmons Freeway, Suite 1600
Dallas, TX 75207

Reference: Eurofins Xenco, LLC Report No(s): **680487**

JRU 21 SWD Riser

Project Address: Eddy County, New Mexico

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) 680487. 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. 680487 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,

A handwritten signature in black ink that reads "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

**Sample Cross Reference 680487****WSP USA, Dallas, TX**

JRU 21 SWD Riser

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS54	S	12.09.2020 10:25	4 ft	680487-001
FS55	S	12.09.2020 11:00	4 ft	680487-002
FS56	S	12.09.2020 11:30	2 ft	680487-003
FS57	S	12.09.2020 11:35	2 ft	680487-004
FS58	S	12.09.2020 11:40	2 ft	680487-005
FS59	S	12.09.2020 11:45	2 ft	680487-006
FS60	S	12.09.2020 12:55	4 ft	680487-007
FS61	S	12.09.2020 13:00	4 ft	680487-008
FS62	S	12.09.2020 13:50	4 ft	680487-009
FS63	S	12.09.2020 13:55	4 ft	680487-010
FS64	S	12.09.2020 14:20	4 ft	680487-011
SW08	S	12.09.2020 10:30	0 - 4 ft	680487-012
SW09	S	12.09.2020 11:05	0 - 4 ft	680487-013
SW10	S	12.09.2020 13:20	0 - 4 ft	680487-014



CASE NARRATIVE

Client Name: WSP USA

Project Name: JRU 21 SWD Riser

Project ID: TE012920074
Work Order Number(s): 680487

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



Certificate of Analytical Results 680487

WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **FS54**
Lab Sample Id: 680487-001

Matrix: Soil
Date Collected: 12.09.2020 10:25

Date Received: 12.09.2020 16:40
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 15:45

% Moisture:
Basis: Wet Weight

Seq Number: 3144563

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	402	9.92	mg/kg	12.10.2020 19:21		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.10.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144742

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.11.2020 14:30	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.11.2020 14:30	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.11.2020 14:30	U	1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.11.2020 14:30	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.11.2020 14:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	12.11.2020 14:30	
o-Terphenyl	84-15-1	114	%	70-135	12.11.2020 14:30	



Certificate of Analytical Results 680487

WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **FS54**
Lab Sample Id: 680487-001

Matrix: Soil
Date Collected: 12.09.2020 10:25

Date Received: 12.09.2020 16:40
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 17:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.2020 02:22	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.2020 02:22	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.2020 02:22	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.11.2020 02:22	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.2020 02:22	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.11.2020 02:22	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.11.2020 02:22	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.11.2020 02:22	
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.11.2020 02:22	



Certificate of Analytical Results 680487

WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: FS55
Lab Sample Id: 680487-002

Matrix: Soil
Date Collected: 12.09.2020 11:00

Date Received: 12.09.2020 16:40
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 15:45

% Moisture:
Basis: Wet Weight

Seq Number: 3144563

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	517	10.0	mg/kg	12.10.2020 19:38		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.10.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144742

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.11.2020 15:31	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.11.2020 15:31	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.11.2020 15:31	U	1
Total GRO-DRO	PHC628	<49.80	49.80	mg/kg	12.11.2020 15:31	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	12.11.2020 15:31	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	106	%	70-135	12.11.2020 15:31	
o-Terphenyl	84-15-1	115	%	70-135	12.11.2020 15:31	



Certificate of Analytical Results 680487

WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: FS55
Lab Sample Id: 680487-002

Matrix: Soil
Date Collected: 12.09.2020 11:00

Date Received: 12.09.2020 16:40
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 17:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.11.2020 02:44	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.11.2020 02:44	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.11.2020 02:44	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.11.2020 02:44	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.11.2020 02:44	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.11.2020 02:44	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.11.2020 02:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	70-130	12.11.2020 02:44	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.11.2020 02:44	



Certificate of Analytical Results 680487

WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **FS56**
Lab Sample Id: 680487-003

Matrix: Soil
Date Collected: 12.09.2020 11:30

Date Received: 12.09.2020 16:40
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 15:45

% Moisture:
Basis: Wet Weight

Seq Number: 3144563

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	130	10.0	mg/kg	12.10.2020 19:43		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.10.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144742

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.11.2020 15:52	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.11.2020 15:52	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.11.2020 15:52	U	1
Total GRO-DRO	PHC628	<50.20	50.20	mg/kg	12.11.2020 15:52	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.11.2020 15:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.11.2020 15:52	
o-Terphenyl	84-15-1	99	%	70-135	12.11.2020 15:52	



Certificate of Analytical Results 680487

WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **FS56**
Lab Sample Id: 680487-003

Matrix: Soil
Date Collected: 12.09.2020 11:30

Date Received: 12.09.2020 16:40
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 17:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.11.2020 03:07	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.11.2020 03:07	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.11.2020 03:07	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.11.2020 03:07	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.11.2020 03:07	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.11.2020 03:07	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.11.2020 03:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.11.2020 03:07	
4-Bromofluorobenzene	460-00-4	122	%	70-130	12.11.2020 03:07	



Certificate of Analytical Results 680487

WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: FS57
Lab Sample Id: 680487-004

Matrix: Soil
Date Collected: 12.09.2020 11:35

Date Received: 12.09.2020 16:40
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 15:45

% Moisture:
Basis: Wet Weight

Seq Number: 3144563

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	111	10.0	mg/kg	12.10.2020 19:49		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.10.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144742

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.11.2020 16:12	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.11.2020 16:12	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.11.2020 16:12	U	1
Total GRO-DRO	PHC628	<50.10	50.10	mg/kg	12.11.2020 16:12	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.11.2020 16:12	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	12.11.2020 16:12	
o-Terphenyl	84-15-1	112	%	70-135	12.11.2020 16:12	



Certificate of Analytical Results 680487

WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: FS57
Lab Sample Id: 680487-004

Matrix: Soil
Date Collected: 12.09.2020 11:35

Date Received: 12.09.2020 16:40
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 17:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.11.2020 03:29	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.11.2020 03:29	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.11.2020 03:29	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.11.2020 03:29	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.11.2020 03:29	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.11.2020 03:29	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.11.2020 03:29	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	122	%	70-130	12.11.2020 03:29	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.11.2020 03:29	



Certificate of Analytical Results 680487

WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **FS58**
Lab Sample Id: 680487-005

Matrix: Soil
Date Collected: 12.09.2020 11:40

Date Received: 12.09.2020 16:40
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 15:45

% Moisture:
Basis: Wet Weight

Seq Number: 3144563

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	140	9.94	mg/kg	12.10.2020 19:54		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.10.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144742

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.11.2020 16:33	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.11.2020 16:33	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.11.2020 16:33	U	1
Total GRO-DRO	PHC628	<50.10	50.10	mg/kg	12.11.2020 16:33	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.11.2020 16:33	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	12.11.2020 16:33	
o-Terphenyl	84-15-1	105	%	70-135	12.11.2020 16:33	



Certificate of Analytical Results 680487

WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **FS58**
Lab Sample Id: 680487-005

Matrix: Soil
Date Collected: 12.09.2020 11:40

Date Received: 12.09.2020 16:40
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 17:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.2020 03:51	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.2020 03:51	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.2020 03:51	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.11.2020 03:51	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.2020 03:51	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.11.2020 03:51	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.11.2020 03:51	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	115	%	70-130	12.11.2020 03:51	
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.11.2020 03:51	



Certificate of Analytical Results 680487

WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **FS59**
Lab Sample Id: 680487-006

Matrix: Soil
Date Collected: 12.09.2020 11:45

Date Received: 12.09.2020 16:40
Sample Depth: 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 15:45

% Moisture:
Basis: Wet Weight

Seq Number: 3144563

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	18.5	10.1	mg/kg	12.10.2020 20:11		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.10.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144742

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.11.2020 16:53	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.11.2020 16:53	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.11.2020 16:53	U	1
Total GRO-DRO	PHC628	<50.20	50.20	mg/kg	12.11.2020 16:53	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.11.2020 16:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	12.11.2020 16:53	
o-Terphenyl	84-15-1	105	%	70-135	12.11.2020 16:53	



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WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **FS59**
Lab Sample Id: 680487-006

Matrix: Soil
Date Collected: 12.09.2020 11:45

Date Received: 12.09.2020 16:40
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 17:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.11.2020 04:14	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.11.2020 04:14	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.11.2020 04:14	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.11.2020 04:14	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.11.2020 04:14	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.11.2020 04:14	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.11.2020 04:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.11.2020 04:14	
4-Bromofluorobenzene	460-00-4	123	%	70-130	12.11.2020 04:14	



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WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **FS60**
Lab Sample Id: 680487-007

Matrix: Soil
Date Collected: 12.09.2020 12:55

Date Received: 12.09.2020 16:40
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 15:45

% Moisture:
Basis: Wet Weight

Seq Number: 3144563

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2290	49.7	mg/kg	12.10.2020 20:17		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.10.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144742

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.11.2020 17:13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.11.2020 17:13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.11.2020 17:13	U	1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.11.2020 17:13	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.11.2020 17:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	118	%	70-135	12.11.2020 17:13	
o-Terphenyl	84-15-1	107	%	70-135	12.11.2020 17:13	



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WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **FS60**
Lab Sample Id: 680487-007

Matrix: Soil
Date Collected: 12.09.2020 12:55

Date Received: 12.09.2020 16:40
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 17:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.11.2020 04:36	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.11.2020 04:36	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.11.2020 04:36	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.11.2020 04:36	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.11.2020 04:36	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.11.2020 04:36	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.11.2020 04:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	109	%	70-130	12.11.2020 04:36	
4-Bromofluorobenzene	460-00-4	124	%	70-130	12.11.2020 04:36	



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WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **FS61**
Lab Sample Id: 680487-008

Matrix: Soil
Date Collected: 12.09.2020 13:00

Date Received: 12.09.2020 16:40
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 15:45

% Moisture:
Basis: Wet Weight

Seq Number: 3144563

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1950	49.9	mg/kg	12.10.2020 20:22		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.10.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144742

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.11.2020 17:34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.11.2020 17:34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.11.2020 17:34	U	1
Total GRO-DRO	PHC628	<49.90	49.90	mg/kg	12.11.2020 17:34	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.11.2020 17:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	12.11.2020 17:34	
o-Terphenyl	84-15-1	109	%	70-135	12.11.2020 17:34	



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WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **FS61**
Lab Sample Id: 680487-008

Matrix: Soil
Date Collected: 12.09.2020 13:00

Date Received: 12.09.2020 16:40
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 17:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.2020 04:59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.2020 04:59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.2020 04:59	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.11.2020 04:59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.2020 04:59	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.11.2020 04:59	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.11.2020 04:59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	119	%	70-130	12.11.2020 04:59		
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.11.2020 04:59		



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WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **FS62**
Lab Sample Id: 680487-009

Matrix: Soil
Date Collected: 12.09.2020 13:50

Date Received: 12.09.2020 16:40
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 15:45

% Moisture:
Basis: Wet Weight

Seq Number: 3144563

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3170	49.9	mg/kg	12.10.2020 20:28		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.10.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144742

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.11.2020 17:54	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.11.2020 17:54	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.11.2020 17:54	U	1
Total GRO-DRO	PHC628	<50.20	50.20	mg/kg	12.11.2020 17:54	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.11.2020 17:54	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	12.11.2020 17:54	
o-Terphenyl	84-15-1	109	%	70-135	12.11.2020 17:54	



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WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **FS62**
Lab Sample Id: 680487-009

Matrix: Soil
Date Collected: 12.09.2020 13:50

Date Received: 12.09.2020 16:40
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 17:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.11.2020 05:21	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.11.2020 05:21	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.11.2020 05:21	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.11.2020 05:21	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.11.2020 05:21	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.11.2020 05:21	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.11.2020 05:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	124	%	70-130	12.11.2020 05:21	
1,4-Difluorobenzene	540-36-3	107	%	70-130	12.11.2020 05:21	



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WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **FS63**
Lab Sample Id: 680487-010

Matrix: Soil
Date Collected: 12.09.2020 13:55

Date Received: 12.09.2020 16:40
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 15:45

% Moisture:
Basis: Wet Weight

Seq Number: 3144563

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3570	49.6	mg/kg	12.10.2020 20:33		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.10.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144742

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.11.2020 18:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.11.2020 18:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.11.2020 18:14	U	1
Total GRO-DRO	PHC628	<50.30	50.30	mg/kg	12.11.2020 18:14	U	1
Total TPH	PHC635	<50.30	50.30	mg/kg	12.11.2020 18:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	12.11.2020 18:14	
o-Terphenyl	84-15-1	95	%	70-135	12.11.2020 18:14	



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WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **FS63**
Lab Sample Id: 680487-010

Matrix: Soil
Date Collected: 12.09.2020 13:55

Date Received: 12.09.2020 16:40
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 17:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.2020 05:43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.2020 05:43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.2020 05:43	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.11.2020 05:43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.2020 05:43	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.11.2020 05:43	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.11.2020 05:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	113	%	70-130	12.11.2020 05:43	
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.11.2020 05:43	



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WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **FS64**
Lab Sample Id: 680487-011

Matrix: Soil
Date Collected: 12.09.2020 14:20

Date Received: 12.09.2020 16:40
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 15:45

% Moisture:
Basis: Wet Weight

Seq Number: 3144563

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	398	9.90	mg/kg	12.10.2020 20:39		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.10.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144742

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.11.2020 18:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.11.2020 18:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.11.2020 18:55	U	1
Total GRO-DRO	PHC628	<50.10	50.10	mg/kg	12.11.2020 18:55	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.11.2020 18:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.11.2020 18:55	
o-Terphenyl	84-15-1	113	%	70-135	12.11.2020 18:55	



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WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **FS64**
Lab Sample Id: 680487-011

Matrix: Soil
Date Collected: 12.09.2020 14:20

Date Received: 12.09.2020 16:40
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 17:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.11.2020 07:03	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.11.2020 07:03	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.11.2020 07:03	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.11.2020 07:03	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.11.2020 07:03	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.11.2020 07:03	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.11.2020 07:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.11.2020 07:03	
4-Bromofluorobenzene	460-00-4	123	%	70-130	12.11.2020 07:03	



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WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **SW08**
Lab Sample Id: 680487-012

Matrix: Soil
Date Collected: 12.09.2020 10:30

Date Received: 12.09.2020 16:40
Sample Depth: 0 - 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 15:45

% Moisture:
Basis: Wet Weight

Seq Number: 3144563

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	247	9.98	mg/kg	12.10.2020 20:56		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.10.2020 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144741

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	116	%	70-135	12.11.2020 12:07	
o-Terphenyl	84-15-1	117	%	70-135	12.11.2020 12:07	



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WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **SW08**
Lab Sample Id: 680487-012

Matrix: Soil
Date Collected: 12.09.2020 10:30

Date Received: 12.09.2020 16:40
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 17:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.11.2020 07:26	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.11.2020 07:26	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.11.2020 07:26	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.11.2020 07:26	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.11.2020 07:26	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.11.2020 07:26	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.11.2020 07:26	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.11.2020 07:26	
4-Bromofluorobenzene	460-00-4	118	%	70-130	12.11.2020 07:26	



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WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **SW09**
Lab Sample Id: 680487-013

Matrix: Soil
Date Collected: 12.09.2020 11:05

Date Received: 12.09.2020 16:40
Sample Depth: 0 - 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 15:45

% Moisture:
Basis: Wet Weight

Seq Number: 3144563

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	310	9.98	mg/kg	12.10.2020 21:01		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.10.2020 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144741

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.11.2020 12:28	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.11.2020 12:28	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.11.2020 12:28	U	1
Total GRO-DRO	PHC628	<49.80	49.80	mg/kg	12.11.2020 12:28	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	12.11.2020 12:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	12.11.2020 12:28	
o-Terphenyl	84-15-1	104	%	70-135	12.11.2020 12:28	



Certificate of Analytical Results 680487

WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **SW09**
Lab Sample Id: 680487-013

Matrix: Soil
Date Collected: 12.09.2020 11:05

Date Received: 12.09.2020 16:40
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 17:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.11.2020 07:48	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.11.2020 07:48	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.11.2020 07:48	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.11.2020 07:48	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.11.2020 07:48	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.11.2020 07:48	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.11.2020 07:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.11.2020 07:48	
4-Bromofluorobenzene	460-00-4	118	%	70-130	12.11.2020 07:48	



Certificate of Analytical Results 680487

WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **SW10**
Lab Sample Id: 680487-014

Matrix: Soil
Date Collected: 12.09.2020 13:20

Date Received: 12.09.2020 16:40
Sample Depth: 0 - 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 15:45

% Moisture:
Basis: Wet Weight

Seq Number: 3144563

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	66.1	9.92	mg/kg	12.10.2020 21:18		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.10.2020 12:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144741

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	95	%	70-135	12.11.2020 12:48	
o-Terphenyl	84-15-1	97	%	70-135	12.11.2020 12:48	



Certificate of Analytical Results 680487

WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **SW10**
Lab Sample Id: 680487-014

Matrix: Soil
Date Collected: 12.09.2020 13:20

Date Received: 12.09.2020 16:40
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.10.2020 17:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144558

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.11.2020 08:10	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.11.2020 08:10	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.11.2020 08:10	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.11.2020 08:10	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.11.2020 08:10	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.11.2020 08:10	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.11.2020 08:10	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.11.2020 08:10	
4-Bromofluorobenzene	460-00-4	116	%	70-130	12.11.2020 08:10	



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



WSP USA
JRJ 21 SWD Riser

Analytical Method: Chloride by EPA 300

Seq Number: 3144563

MB Sample Id: 7716883-1-BLK

Matrix: Solid

LCS Sample Id: 7716883-1-BKS

Prep Method: E300P

Date Prep: 12.10.2020

LCSD Sample Id: 7716883-1-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	247	99	247	99	90-110	0	20	mg/kg	12.10.2020 18:48	

Analytical Method: Chloride by EPA 300

Seq Number: 3144563

Parent Sample Id: 680487-001

Matrix: Soil

MS Sample Id: 680487-001 S

Prep Method: E300P

Date Prep: 12.10.2020

MSD Sample Id: 680487-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	402	200	585	92	587	93	90-110	0	20	mg/kg	12.10.2020 19:26	

Analytical Method: Chloride by EPA 300

Seq Number: 3144563

Parent Sample Id: 680487-011

Matrix: Soil

MS Sample Id: 680487-011 S

Prep Method: E300P

Date Prep: 12.10.2020

MSD Sample Id: 680487-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	398	199	589	96	582	92	90-110	1	20	mg/kg	12.10.2020 20:44	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144741

MB Sample Id: 7716874-1-BLK

Matrix: Solid

LCS Sample Id: 7716874-1-BKS

Prep Method: SW8015P

Date Prep: 12.10.2020

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

Seq Number: 3144742

MB Sample Id: 7716876-1-BLK

Matrix: Solid

LCS Sample Id: 7716876-1-BKS

Prep Method: SW8015P

Date Prep: 12.10.2020

LCSD Sample Id: 7716876-1-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	1070	107	1040	104	70-135	3	35	mg/kg	12.11.2020 13:49	
Diesel Range Organics (DRO)	<50.0	1000	1020	102	1050	105	70-135	3	35	mg/kg	12.11.2020 13:49	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		98		108		70-135	%	12.11.2020 13:49
o-Terphenyl	93		107		108		70-135	%	12.11.2020 13:49

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

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

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

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



WSP USA
JRJ 21 SWD Riser

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144741

Matrix: Solid

Prep Method: SW8015P

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	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144742

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.10.2020

MB Sample Id: 7716876-1-BLK

Parameter

	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.11.2020 13:29	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144741

Matrix: Soil

Prep Method: SW8015P

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: TPH by SW8015 Mod

Seq Number: 3144742

Matrix: Soil

Prep Method: SW8015P

Date Prep: 12.10.2020

Parent Sample Id: 680487-001

MS Sample Id: 680487-001 S

MSD Sample Id: 680487-001 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)	<49.8	995	1130	114	1050	105	70-135	7	35	mg/kg	12.11.2020 14:51	
Diesel Range Organics (DRO)	<49.8	995	994	100	964	97	70-135	3	35	mg/kg	12.11.2020 14:51	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		115		70-135	%	12.11.2020 14:51
o-Terphenyl	115		118		70-135	%	12.11.2020 14:51

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

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

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

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



WSP USA
JRJ 21 SWD Riser

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144558

Matrix: Solid

Prep Method: SW5035A

Date Prep: 12.10.2020

MB Sample Id: 7716868-1-BLK

LCS Sample Id: 7716868-1-BKS

LCSD Sample Id: 7716868-1-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	0.0935	94	0.0941	94	70-130	1	35	mg/kg	12.11.2020 00:17	
Toluene	<0.00200	0.100	0.0867	87	0.0894	89	70-130	3	35	mg/kg	12.11.2020 00:17	
Ethylbenzene	<0.00200	0.100	0.0927	93	0.0919	92	71-129	1	35	mg/kg	12.11.2020 00:17	
m,p-Xylenes	<0.00400	0.200	0.190	95	0.193	97	70-135	2	35	mg/kg	12.11.2020 00:17	
o-Xylene	<0.00200	0.100	0.0944	94	0.0961	96	71-133	2	35	mg/kg	12.11.2020 00:17	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		97		100		70-130	%	12.11.2020 00:17
4-Bromofluorobenzene	117		107		108		70-130	%	12.11.2020 00:17

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144558

Matrix: Soil

Prep Method: SW5035A

Date Prep: 12.10.2020

Parent Sample Id: 680487-001

MS Sample Id: 680487-001 S

MSD Sample Id: 680487-001 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	0.0940	94	0.0977	98	70-130	4	35	mg/kg	12.11.2020 01:02	
Toluene	<0.00200	0.100	0.0900	90	0.0933	93	70-130	4	35	mg/kg	12.11.2020 01:02	
Ethylbenzene	<0.00200	0.100	0.0958	96	0.0946	95	71-129	1	35	mg/kg	12.11.2020 01:02	
m,p-Xylenes	<0.00401	0.200	0.197	99	0.193	97	70-135	2	35	mg/kg	12.11.2020 01:02	
o-Xylene	<0.00200	0.100	0.0956	96	0.0961	96	71-133	1	35	mg/kg	12.11.2020 01:02	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	101		102		70-130	%	12.11.2020 01:02
4-Bromofluorobenzene	106		116		70-130	%	12.11.2020 01:02

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

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

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

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



Chain of Custody

Work Order No: 6080487

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
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-9800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Project Manager: Dan Muir		Bill to: (if different) Kyle Little	
Company Name: WSP USA Inc		Company Name: XTO Energy	
Address: 3300 North A Street		Address: 522 West Mermaid	
City, State ZIP: Midland TX 79705		City, State ZIP: Carlsbad NM 88220	
Phone: (432) 236-3949		Email: elizabeth.maka@wsp.com, danm@xencolab.com	

Project Name: JKU 21 SMD Riser	Turn Around Routine ☒	Pres. Code
Project Number: TEO12920074		
Project Location: Eddy County	Rush: ☐	
Sampler's Name: Naka, Elizabeth	Due Date:	
PO #:	Quote #:	

SAMPLE RECEIPT				ANALYSIS REQUEST				PRESERVATIVE CODES			
Temperature (°C):	3.8 / 3.6	Temp Blank:	Yes ☒ No ☐	Wet Ice:	Yes ☒ No ☐	Thermometer ID		MeOH: Me			
Received Intact:	Yes ☒ No ☐	Correction Factor:		T-NM-007		None: NO		HNO3: HN			
Cooler Custody Seals:	Yes ☒ No ☐ N/A	Total Containers:		14		H2SO4: H2		HCL: HL			
Sample Custody Seals:	Yes ☒ No ☐ N/A					Zn Acetate+ NaOH: Zn		TAT starts the day received by the lab, if received by 4:00pm			
Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers		Sample Comments			
FS54		S	12/09/20	1025	4'	1	X	TPH (EPA 8015)			
FS55							X	BTEX (EPA 0-8021)			
FS56							X	Chloride (EPA 300.0)			
FS57											
FS58											
FS59											
FS60											
FS61											
FS62											
FS63											

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 Ti 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 Ti 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
Chad Naka	Chad Naka	12-9-20 1640			



Chain of Custody

Work Order No: 680487

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 Crashtad, NM (432) 704-5440
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

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Project Manager:	Dan Mair	Bill to: (if different)	Lytle Laffell
Company Name:	WSP USA Inc	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	522 West Mermaid
City, State ZIP:	Midland TX 79705	City, State ZIP:	Crashtad NM 88220
Phone:	(432) 236-5849	Email:	elzabeth.gmka@wsp.com, dmair@ttnv.com

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

Project Name:	SRU 21 SWD Riser	Turn Around	☒
Project Number:	TE012920074	Routine	☒
Project Location:	Eddy County	Rush:	
Sampler's Name:	Elizabeth Nave	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT	Temperature (°C):	Temp Blank:	Yes	No	Wet Lee:	Yes	No
	Received Intact:	Yes	No	Thermometer ID			
	Cooler Custody Seals:	Yes	No	Correction Factor:			
	Sample Custody Seals:	Yes	No	Total Containers:			

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth
--------	-----------------------	--------	--------------	--------------	-------

ES64	S	12/09/20	14:20	4'	1
SW08	↓	↓	1030	0'-4'	×
SW09	↓	↓	1105	↓	×
SW10	↓	↓	1300	↓	×

ANALYSIS REQUEST											
Pres.	Code										
		TPH (EPA 8015)	×								
		BTEX (EPA 0-8021)	×								
		Chloride (EPA 300.0)	×								
Preservative Codes											
MeOH: Me											
None: NO											
HNO3: HN											
H2SO4: H2											
HCL: HL											
NaOH: Na											
Zn Acetate+ NaOH: Zn											
TAT starts the day received by the lab, if received by 4:00pm											
Sample Comments											
comp site											

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 Ti Sn U V Zn

1631 / 245.1 / 7470 / 7471 : Hg

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 Ti U

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
<i>Elizabeth Nave</i>	<i>David Cuffe</i>	12.9.20 1645			

Revised Date 02/28/19 Rev. 2019.1

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: WSP USA

Date/ Time Received: 12.09.2020 04.40.00 PM

Work Order #: 680487

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)?	3.6
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra samples?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	No
#18 Water VOC samples have zero headspace?	N/A

Samples received in bulk containers.

*** 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

Certificate of Analysis Summary 680628



LT Environmental, Inc., Arvada, CO

Project Name: JRV 21 SWD Riser

Project Id: TE 012920074

Contact: Dan Moir

Project Location: Eddy County

Date Received in Lab: Thu 12.10.2020 11:55

Report Date: 12.16.2020 12:14

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	680628-001	680628-002	680628-003	680628-004	680628-005	680628-006
	<i>Field Id:</i>	FS65	FS66	FS67	FS68	FS69	FS70
	<i>Depth:</i>	4- ft	4- ft	4- ft	4- ft	4- ft	4- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.10.2020 08:20	12.10.2020 08:25	12.10.2020 08:30	12.10.2020 08:35	12.10.2020 08:55	12.10.2020 09:20
BTEX by EPA 8021B	<i>Extracted:</i>	12.11.2020 11:03	12.11.2020 11:03	12.11.2020 11:03	12.11.2020 11:03	12.11.2020 11:03	12.11.2020 11:03
	<i>Analyzed:</i>	12.11.2020 20:55	12.11.2020 21:17	12.11.2020 21:40	12.11.2020 22:02	12.11.2020 22:25	12.11.2020 22:47
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202
Toluene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202
Ethylbenzene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202
m,p-Xylenes		<0.00401 0.00401	<0.00397 0.00397	<0.00399 0.00399	<0.00398 0.00398	<0.00401 0.00401	<0.00403 0.00403
o-Xylene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202
Total Xylenes		<0.002000 0.002000	<0.001980 0.001980	<0.002000 0.002000	<0.001990 0.001990	<0.002000 0.002000	<0.002020 0.002020
Total BTEX		<0.002000 0.002000	<0.001980 0.001980	<0.002000 0.002000	<0.001990 0.001990	<0.002000 0.002000	<0.002020 0.002020
Chloride by EPA 300	<i>Extracted:</i>	12.11.2020 16:10	12.11.2020 16:10	12.11.2020 16:10	12.11.2020 16:10	12.11.2020 16:10	12.11.2020 16:10
	<i>Analyzed:</i>	12.11.2020 21:39	12.11.2020 21:44	12.11.2020 21:49	12.11.2020 22:05	12.11.2020 22:20	12.11.2020 22:25
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		3490 49.9	4860 49.9	5190 50.1	4490 50.1	4650 50.1	3040 50.4
TPH by SW8015 Mod	<i>Extracted:</i>	12.10.2020 17:00	12.10.2020 17:00	12.10.2020 17:33	12.10.2020 17:33	12.10.2020 17:33	12.10.2020 17:33
	<i>Analyzed:</i>	12.11.2020 21:37	12.11.2020 21:58	12.11.2020 23:38	12.12.2020 00:39	12.12.2020 00:59	12.12.2020 01:19
	<i>Units/RL:</i>	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	<49.9 49.9	<49.9 49.9	<50.1 50.1	<50.0 50.0
Diesel Range Organics (DRO)		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9	<50.1 50.1	<50.0 50.0
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<50.0 50.0	<49.9 49.9	<49.9 49.9	<50.1 50.1	<50.0 50.0
Total GRO-DRO		<50.00 50.00	<50.00 50.00	<49.90 49.90	<49.90 49.90	<50.10 50.10	<50.00 50.00
Total TPH		<50.00 50.00	<50.00 50.00	<49.90 49.90	<49.90 49.90	<50.10 50.10	<50.00 50.00

BRL - Below Reporting Limit

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

Certificate of Analysis Summary 680628



LT Environmental, Inc., Arvada, CO

Project Name: JRV 21 SWD Riser

Project Id: TE 012920074

Date Received in Lab: Thu 12.10.2020 11:55

Contact: Dan Moir

Report Date: 12.16.2020 12:14

Project Location: Eddy County

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	680628-007	680628-008	680628-009	680628-010	680628-011	680628-012
	<i>Field Id:</i>	FS71	SW11	SW12	SW13	SW14	SW15
	<i>Depth:</i>	2- ft	0-4 ft	0-4 ft	0-4 ft	0-4 ft	0-4 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.10.2020 10:00	12.10.2020 08:40	12.10.2020 08:45	12.10.2020 08:50	12.10.2020 09:25	12.10.2020 09:30
BTEX by EPA 8021B	<i>Extracted:</i>	12.11.2020 14:20	12.11.2020 14:20	12.11.2020 14:20	12.11.2020 14:20	12.11.2020 14:20	12.11.2020 14:20
	<i>Analyzed:</i>	12.11.2020 15:44	12.11.2020 16:06	12.11.2020 16:29	12.11.2020 16:51	12.11.2020 17:14	12.11.2020 17:36
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202
Toluene		<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202
Ethylbenzene		<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202
m,p-Xylenes		<0.00398 0.00398	<0.00403 0.00403	<0.00404 0.00404	<0.00398 0.00398	<0.00399 0.00399	<0.00403 0.00403
o-Xylene		<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00199 0.00199	<0.00200 0.00200	<0.00202 0.00202
Total Xylenes		<0.001990 0.001990	<0.002020 0.002020	<0.002020 0.002020	<0.001990 0.001990	<0.002000 0.002000	<0.002020 0.002020
Total BTEX		<0.001990 0.001990	<0.002020 0.002020	<0.002020 0.002020	<0.001990 0.001990	<0.002000 0.002000	<0.002020 0.002020
Chloride by EPA 300	<i>Extracted:</i>	12.11.2020 16:10	12.11.2020 16:10	12.11.2020 16:10	12.11.2020 16:10	12.11.2020 16:10	12.11.2020 16:10
	<i>Analyzed:</i>	12.11.2020 22:30	12.11.2020 22:35	12.11.2020 22:40	12.11.2020 22:45	12.11.2020 22:50	12.11.2020 22:55
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		19.4 9.94	122 9.96	134 9.98	137 9.98	3570 49.8	2450 49.9
TPH by SW8015 Mod	<i>Extracted:</i>	12.10.2020 17:33	12.10.2020 17:33	12.10.2020 17:33	12.10.2020 17:33	12.10.2020 17:33	12.10.2020 17:33
	<i>Analyzed:</i>	12.12.2020 01:39	12.12.2020 01:59	12.12.2020 02:19	12.12.2020 02:39	12.12.2020 02:59	12.12.2020 03:19
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		<49.8 49.8	<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.1 50.1	<49.9 49.9
Diesel Range Organics (DRO)		<49.8 49.8	<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.1 50.1	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<50.0 50.0	<49.9 49.9	<50.0 50.0	<50.1 50.1	<49.9 49.9
Total GRO-DRO		<49.80 49.80	<50.00 50.00	<49.90 49.90	<50.00 50.00	<50.10 50.10	<49.90 49.90
Total TPH		<49.80 49.80	<50.00 50.00	<49.90 49.90	<50.00 50.00	<50.10 50.10	<49.90 49.90

BRL - Below Reporting Limit

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

Certificate of Analysis Summary 680628



LT Environmental, Inc., Arvada, CO

Project Name: JRV 21 SWD Riser

Project Id: TE 012920074

Contact: Dan Moir

Project Location: Eddy County

Date Received in Lab: Thu 12.10.2020 11:55

Report Date: 12.16.2020 12:14

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	680628-013	680628-014	680628-015	680628-016	680628-017	
	<i>Field Id:</i>	SW16	SW17	SW18	SW19	SW20	
	<i>Depth:</i>	0-4 ft	0-4 ft	0-2 ft	0-2 ft	0-2 ft	
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	12.10.2020 09:35	12.10.2020 09:40	12.10.2020 09:45	12.10.2020 09:50	12.10.2020 09:55	
BTEX by EPA 8021B	<i>Extracted:</i>	12.11.2020 14:20	12.11.2020 14:20	12.11.2020 14:20	12.11.2020 14:20	12.11.2020 14:20	
	<i>Analyzed:</i>	12.11.2020 17:58	12.11.2020 18:21	12.11.2020 18:43	12.11.2020 19:06	12.11.2020 20:26	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	
Toluene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	
Ethylbenzene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	
m,p-Xylenes		<0.00401 0.00401	<0.00397 0.00397	<0.00399 0.00399	<0.00396 0.00396	<0.00399 0.00399	
o-Xylene		<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	
Total Xylenes		<0.002000 0.002000	<0.001980 0.001980	<0.002000 0.002000	<0.001980 0.001980	<0.002000 0.002000	
Total BTEX		<0.002000 0.002000	<0.001980 0.001980	<0.002000 0.002000	<0.001980 0.001980	<0.002000 0.002000	
Chloride by EPA 300	<i>Extracted:</i>	12.14.2020 16:44	12.14.2020 16:44	12.14.2020 16:44	12.14.2020 16:44	12.14.2020 16:44	
	<i>Analyzed:</i>	12.15.2020 15:10	12.15.2020 15:28	12.15.2020 15:34	12.15.2020 15:40	12.15.2020 15:46	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		3040 49.6	31.0 10.0	29.4 10.0	30.4 9.98	22.8 9.90	
TPH by SW8015 Mod	<i>Extracted:</i>	12.10.2020 17:33	12.10.2020 17:33	12.10.2020 17:33	12.10.2020 17:33	12.10.2020 17:33	
	<i>Analyzed:</i>	12.12.2020 03:59	12.12.2020 04:20	12.12.2020 04:40	12.12.2020 05:00	12.12.2020 05:20	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<49.8 49.8	<50.0 50.0	<50.3 50.3	<49.9 49.9	<50.0 50.0	
Diesel Range Organics (DRO)		<49.8 49.8	<50.0 50.0	<50.3 50.3	<49.9 49.9	<50.0 50.0	
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<50.0 50.0	<50.3 50.3	<49.9 49.9	<50.0 50.0	
Total GRO-DRO		<49.80 49.80	<50.00 50.00	<50.30 50.30	<49.90 49.90	<50.00 50.00	
Total TPH		<49.80 49.80	<50.00 50.00	<50.30 50.30	<49.90 49.90	<50.00 50.00	

BRL - Below Reporting Limit

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



Analytical Report 680628

for

LT Environmental, Inc.

Project Manager: Dan Moir

JRV 21 SWD Riser

TE 012920074

12.16.2020

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: TN102385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



12.16.2020

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: Eurofins Xenco, LLC Report No(s): **680628**

JRV 21 SWD Riser

Project Address: Eddy County

Dan Moir:

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Eurofins Xenco, LLC Report Number(s) 680628. 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. 680628 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,

A handwritten signature in black ink that reads "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

**Sample Cross Reference 680628****LT Environmental, Inc., Arvada, CO**

JRV 21 SWD Riser

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS65	S	12.10.2020 08:20	4 ft	680628-001
FS66	S	12.10.2020 08:25	4 ft	680628-002
FS67	S	12.10.2020 08:30	4 ft	680628-003
FS68	S	12.10.2020 08:35	4 ft	680628-004
FS69	S	12.10.2020 08:55	4 ft	680628-005
FS70	S	12.10.2020 09:20	4 ft	680628-006
FS71	S	12.10.2020 10:00	2 ft	680628-007
SW11	S	12.10.2020 08:40	0 - 4 ft	680628-008
SW12	S	12.10.2020 08:45	0 - 4 ft	680628-009
SW13	S	12.10.2020 08:50	0 - 4 ft	680628-010
SW14	S	12.10.2020 09:25	0 - 4 ft	680628-011
SW15	S	12.10.2020 09:30	0 - 4 ft	680628-012
SW16	S	12.10.2020 09:35	0 - 4 ft	680628-013
SW17	S	12.10.2020 09:40	0 - 4 ft	680628-014
SW18	S	12.10.2020 09:45	0 - 2 ft	680628-015
SW19	S	12.10.2020 09:50	0 - 2 ft	680628-016
SW20	S	12.10.2020 09:55	0 - 2 ft	680628-017



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: JRV 21 SWD Riser

Project ID: TE 012920074
Work Order Number(s): 680628

Report Date: 12.16.2020
Date Received: 12.10.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 680628

LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **FS65** Matrix: Soil Date Received: 12.10.2020 11:55
 Lab Sample Id: 680628-001 Date Collected: 12.10.2020 08:20 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 16:10 % Moisture:
 Seq Number: 3144748 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3490	49.9	mg/kg	12.11.2020 21:39		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.10.2020 17:00 % Moisture:
 Seq Number: 3144742 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 21:37	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.11.2020 21:37	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.11.2020 21:37	U	1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.11.2020 21:37	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.11.2020 21:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	12.11.2020 21:37	
o-Terphenyl	84-15-1	111	%	70-135	12.11.2020 21:37	



Certificate of Analytical Results 680628

LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **FS65**
Lab Sample Id: 680628-001

Matrix: Soil
Date Collected: 12.10.2020 08:20

Date Received: 12.10.2020 11:55
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 11:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.2020 20:55	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.2020 20:55	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.2020 20:55	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.11.2020 20:55	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.2020 20:55	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.11.2020 20:55	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.11.2020 20:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.11.2020 20:55	
4-Bromofluorobenzene	460-00-4	90	%	70-130	12.11.2020 20:55	



Certificate of Analytical Results 680628

LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **FS66** Matrix: Soil Date Received: 12.10.2020 11:55
 Lab Sample Id: 680628-002 Date Collected: 12.10.2020 08:25 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 16:10 % Moisture:
 Seq Number: 3144748 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4860	49.9	mg/kg	12.11.2020 21:44		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.10.2020 17:00 % Moisture:
 Seq Number: 3144742 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 21:58	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.11.2020 21:58	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.11.2020 21:58	U	1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.11.2020 21:58	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.11.2020 21:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	12.11.2020 21:58	
o-Terphenyl	84-15-1	107	%	70-135	12.11.2020 21:58	



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LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **FS66**
Lab Sample Id: 680628-002

Matrix: Soil
Date Collected: 12.10.2020 08:25

Date Received: 12.10.2020 11:55
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 11:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.11.2020 21:17	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.11.2020 21:17	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.11.2020 21:17	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.11.2020 21:17	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.11.2020 21:17	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.11.2020 21:17	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.11.2020 21:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.11.2020 21:17	
4-Bromofluorobenzene	460-00-4	91	%	70-130	12.11.2020 21:17	



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LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **FS67** Matrix: Soil Date Received: 12.10.2020 11:55
 Lab Sample Id: 680628-003 Date Collected: 12.10.2020 08:30 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 16:10 % Moisture:
 Seq Number: 3144748 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5190	50.1	mg/kg	12.11.2020 21:49		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.10.2020 17:33 % Moisture:
 Seq Number: 3144745 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 23:38	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.11.2020 23:38	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.11.2020 23:38	U	1
Total GRO-DRO	PHC628	<49.90	49.90	mg/kg	12.11.2020 23:38	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.11.2020 23:38	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	117	%	70-135	12.11.2020 23:38	
o-Terphenyl	84-15-1	107	%	70-135	12.11.2020 23:38	



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LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **FS67**
Lab Sample Id: 680628-003

Matrix: Soil
Date Collected: 12.10.2020 08:30

Date Received: 12.10.2020 11:55
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 11:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.2020 21:40	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.2020 21:40	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.2020 21:40	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.11.2020 21:40	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.2020 21:40	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.11.2020 21:40	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.11.2020 21:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.11.2020 21:40	
4-Bromofluorobenzene	460-00-4	89	%	70-130	12.11.2020 21:40	



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LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **FS68**
Lab Sample Id: 680628-004

Matrix: Soil
Date Collected: 12.10.2020 08:35

Date Received: 12.10.2020 11:55
Sample Depth: 4 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 16:10

% Moisture:
Basis: Wet Weight

Seq Number: 3144748

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4490	50.1	mg/kg	12.11.2020 22:05		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.10.2020 17:33

% Moisture:
Basis: Wet Weight

Seq Number: 3144745

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.12.2020 00:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.12.2020 00:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.12.2020 00:39	U	1
Total GRO-DRO	PHC628	<49.90	49.90	mg/kg	12.12.2020 00:39	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.12.2020 00:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	100	%	70-135	12.12.2020 00:39	
o-Terphenyl	84-15-1	117	%	70-135	12.12.2020 00:39	



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LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **FS68**
Lab Sample Id: 680628-004

Matrix: Soil
Date Collected: 12.10.2020 08:35

Date Received: 12.10.2020 11:55
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 11:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.11.2020 22:02	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.11.2020 22:02	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.11.2020 22:02	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.11.2020 22:02	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.11.2020 22:02	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.11.2020 22:02	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.11.2020 22:02	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.11.2020 22:02	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.11.2020 22:02	



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LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **FS69** Matrix: Soil Date Received: 12.10.2020 11:55
 Lab Sample Id: 680628-005 Date Collected: 12.10.2020 08:55 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 16:10 % Moisture:
 Seq Number: 3144748 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4650	50.1	mg/kg	12.11.2020 22:20		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.10.2020 17:33 % Moisture:
 Seq Number: 3144745 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.12.2020 00:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.12.2020 00:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.12.2020 00:59	U	1
Total GRO-DRO	PHC628	<50.10	50.10	mg/kg	12.12.2020 00:59	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.12.2020 00:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	96	%	70-135	12.12.2020 00:59	
o-Terphenyl	84-15-1	115	%	70-135	12.12.2020 00:59	



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LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **FS69**
Lab Sample Id: 680628-005

Matrix: Soil
Date Collected: 12.10.2020 08:55

Date Received: 12.10.2020 11:55
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 11:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.2020 22:25	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.2020 22:25	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.2020 22:25	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.11.2020 22:25	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.2020 22:25	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.11.2020 22:25	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.11.2020 22:25	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	95	%	70-130	12.11.2020 22:25	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.11.2020 22:25	



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JRV 21 SWD Riser

Sample Id: **FS70** Matrix: Soil Date Received: 12.10.2020 11:55
 Lab Sample Id: 680628-006 Date Collected: 12.10.2020 09:20 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 16:10 % Moisture:
 Seq Number: 3144748 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3040	50.4	mg/kg	12.11.2020 22:25		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.10.2020 17:33 % Moisture:
 Seq Number: 3144745 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 01:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.12.2020 01:19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.12.2020 01:19	U	1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.12.2020 01:19	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.12.2020 01:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	12.12.2020 01:19	
o-Terphenyl	84-15-1	97	%	70-135	12.12.2020 01:19	



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LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **FS70**
Lab Sample Id: 680628-006

Matrix: Soil
Date Collected: 12.10.2020 09:20

Date Received: 12.10.2020 11:55
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 11:03

% Moisture:
Basis: Wet Weight

Seq Number: 3144684

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.11.2020 22:47	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.11.2020 22:47	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.11.2020 22:47	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.11.2020 22:47	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.11.2020 22:47	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.11.2020 22:47	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.11.2020 22:47	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.11.2020 22:47	
4-Bromofluorobenzene	460-00-4	95	%	70-130	12.11.2020 22:47	



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JRV 21 SWD Riser

Sample Id: **FS71** Matrix: Soil Date Received: 12.10.2020 11:55
 Lab Sample Id: 680628-007 Date Collected: 12.10.2020 10:00 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 16:10 % Moisture:
 Seq Number: 3144748 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	19.4	9.94	mg/kg	12.11.2020 22:30		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.10.2020 17:33 % Moisture:
 Seq Number: 3144745 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.12.2020 01:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.12.2020 01:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.12.2020 01:39	U	1
Total GRO-DRO	PHC628	<49.80	49.80	mg/kg	12.12.2020 01:39	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	12.12.2020 01:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	12.12.2020 01:39	
o-Terphenyl	84-15-1	111	%	70-135	12.12.2020 01:39	



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LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **FS71**
Lab Sample Id: 680628-007

Matrix: Soil
Date Collected: 12.10.2020 10:00

Date Received: 12.10.2020 11:55
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 14:20

% Moisture:
Basis: Wet Weight

Seq Number: 3144728

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.11.2020 15:44	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.11.2020 15:44	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.11.2020 15:44	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.11.2020 15:44	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.11.2020 15:44	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.11.2020 15:44	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.11.2020 15:44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.11.2020 15:44		
4-Bromofluorobenzene	460-00-4	127	%	70-130	12.11.2020 15:44		



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JRV 21 SWD Riser

Sample Id: **SW11** Matrix: Soil Date Received: 12.10.2020 11:55
 Lab Sample Id: 680628-008 Date Collected: 12.10.2020 08:40 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 16:10 % Moisture:
 Seq Number: 3144748 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	122	9.96	mg/kg	12.11.2020 22:35		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.10.2020 17:33 % Moisture:
 Seq Number: 3144745 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 01:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.12.2020 01:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.12.2020 01:59	U	1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.12.2020 01:59	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.12.2020 01:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	12.12.2020 01:59	
o-Terphenyl	84-15-1	93	%	70-135	12.12.2020 01:59	



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LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **SW11**
Lab Sample Id: 680628-008

Matrix: Soil
Date Collected: 12.10.2020 08:40

Date Received: 12.10.2020 11:55
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 14:20

% Moisture:
Basis: Wet Weight

Seq Number: 3144728

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.11.2020 16:06	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.11.2020 16:06	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.11.2020 16:06	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.11.2020 16:06	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.11.2020 16:06	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.11.2020 16:06	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.11.2020 16:06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	117	%	70-130	12.11.2020 16:06		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.11.2020 16:06		



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JRV 21 SWD Riser

Sample Id: **SW12** Matrix: Soil Date Received: 12.10.2020 11:55
 Lab Sample Id: 680628-009 Date Collected: 12.10.2020 08:45 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 16:10 % Moisture:
 Seq Number: 3144748 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	134	9.98	mg/kg	12.11.2020 22:40		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.10.2020 17:33 % Moisture:
 Seq Number: 3144745 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.12.2020 02:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.12.2020 02:19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.12.2020 02:19	U	1
Total GRO-DRO	PHC628	<49.90	49.90	mg/kg	12.12.2020 02:19	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.12.2020 02:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	12.12.2020 02:19	
o-Terphenyl	84-15-1	102	%	70-135	12.12.2020 02:19	



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LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **SW12**
Lab Sample Id: 680628-009

Matrix: Soil
Date Collected: 12.10.2020 08:45

Date Received: 12.10.2020 11:55
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 14:20

% Moisture:
Basis: Wet Weight

Seq Number: 3144728

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.11.2020 16:29	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.11.2020 16:29	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.11.2020 16:29	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.11.2020 16:29	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.11.2020 16:29	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.11.2020 16:29	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.11.2020 16:29	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	116	%	70-130	12.11.2020 16:29		
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.11.2020 16:29		



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LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **SW13** Matrix: Soil Date Received: 12.10.2020 11:55
 Lab Sample Id: 680628-010 Date Collected: 12.10.2020 08:50 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 16:10 % Moisture:
 Seq Number: 3144748 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	137	9.98	mg/kg	12.11.2020 22:45		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.10.2020 17:33 % Moisture:
 Seq Number: 3144745 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 02:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.12.2020 02:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.12.2020 02:39	U	1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.12.2020 02:39	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.12.2020 02:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	105	%	70-135	12.12.2020 02:39	
o-Terphenyl	84-15-1	101	%	70-135	12.12.2020 02:39	



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LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **SW13**
Lab Sample Id: 680628-010

Matrix: Soil
Date Collected: 12.10.2020 08:50

Date Received: 12.10.2020 11:55
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 14:20

% Moisture:
Basis: Wet Weight

Seq Number: 3144728

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.11.2020 16:51	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.11.2020 16:51	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.11.2020 16:51	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.11.2020 16:51	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.11.2020 16:51	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.11.2020 16:51	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.11.2020 16:51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	119	%	70-130	12.11.2020 16:51		
1,4-Difluorobenzene	540-36-3	107	%	70-130	12.11.2020 16:51		



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LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **SW14** Matrix: Soil Date Received: 12.10.2020 11:55
 Lab Sample Id: 680628-011 Date Collected: 12.10.2020 09:25 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 16:10 % Moisture:
 Seq Number: 3144748 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3570	49.8	mg/kg	12.11.2020 22:50		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.10.2020 17:33 % Moisture:
 Seq Number: 3144745 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.12.2020 02:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.12.2020 02:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.12.2020 02:59	U	1
Total GRO-DRO	PHC628	<50.10	50.10	mg/kg	12.12.2020 02:59	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.12.2020 02:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	12.12.2020 02:59	
o-Terphenyl	84-15-1	114	%	70-135	12.12.2020 02:59	



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LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **SW14**
Lab Sample Id: 680628-011

Matrix: Soil
Date Collected: 12.10.2020 09:25

Date Received: 12.10.2020 11:55
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 14:20

% Moisture:
Basis: Wet Weight

Seq Number: 3144728

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.2020 17:14	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.2020 17:14	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.2020 17:14	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.11.2020 17:14	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.2020 17:14	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.11.2020 17:14	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.11.2020 17:14	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	118	%	70-130	12.11.2020 17:14		
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.11.2020 17:14		



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LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **SW15** Matrix: Soil Date Received: 12.10.2020 11:55
 Lab Sample Id: 680628-012 Date Collected: 12.10.2020 09:30 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.11.2020 16:10 % Moisture:
 Seq Number: 3144748 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2450	49.9	mg/kg	12.11.2020 22:55		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.10.2020 17:33 % Moisture:
 Seq Number: 3144745 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.12.2020 03:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.12.2020 03:19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.12.2020 03:19	U	1
Total GRO-DRO	PHC628	<49.90	49.90	mg/kg	12.12.2020 03:19	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.12.2020 03:19	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	98	%	70-135	12.12.2020 03:19	
o-Terphenyl	84-15-1	107	%	70-135	12.12.2020 03:19	



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LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **SW15**
Lab Sample Id: 680628-012

Matrix: Soil
Date Collected: 12.10.2020 09:30

Date Received: 12.10.2020 11:55
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 14:20

% Moisture:
Basis: Wet Weight

Seq Number: 3144728

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.11.2020 17:36	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.11.2020 17:36	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.11.2020 17:36	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.11.2020 17:36	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.11.2020 17:36	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.11.2020 17:36	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.11.2020 17:36	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	108	%	70-130	12.11.2020 17:36		
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.11.2020 17:36		



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JRV 21 SWD Riser

Sample Id: **SW16** Matrix: Soil Date Received: 12.10.2020 11:55
 Lab Sample Id: 680628-013 Date Collected: 12.10.2020 09:35 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.14.2020 16:44 % Moisture:
 Seq Number: 3145019 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3040	49.6	mg/kg	12.15.2020 15:10		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.10.2020 17:33 % Moisture:
 Seq Number: 3144745 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.12.2020 03:59	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.12.2020 03:59	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.12.2020 03:59	U	1
Total GRO-DRO	PHC628	<49.80	49.80	mg/kg	12.12.2020 03:59	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	12.12.2020 03:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-135	12.12.2020 03:59	
o-Terphenyl	84-15-1	111	%	70-135	12.12.2020 03:59	



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LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **SW16**
Lab Sample Id: 680628-013

Matrix: Soil
Date Collected: 12.10.2020 09:35

Date Received: 12.10.2020 11:55
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 14:20

% Moisture:
Basis: Wet Weight

Seq Number: 3144728

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.2020 17:58	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.2020 17:58	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.2020 17:58	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.11.2020 17:58	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.2020 17:58	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.11.2020 17:58	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.11.2020 17:58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.11.2020 17:58		
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.11.2020 17:58		



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LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **SW17** Matrix: Soil Date Received: 12.10.2020 11:55
 Lab Sample Id: 680628-014 Date Collected: 12.10.2020 09:40 Sample Depth: 0 - 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.14.2020 16:44 % Moisture:
 Seq Number: 3145019 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	31.0	10.0	mg/kg	12.15.2020 15:28		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.10.2020 17:33 % Moisture:
 Seq Number: 3144745 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 04:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.12.2020 04:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.12.2020 04:20	U	1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.12.2020 04:20	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.12.2020 04:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	103	%	70-135	12.12.2020 04:20	
o-Terphenyl	84-15-1	101	%	70-135	12.12.2020 04:20	



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LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **SW17**
Lab Sample Id: 680628-014

Matrix: Soil
Date Collected: 12.10.2020 09:40

Date Received: 12.10.2020 11:55
Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 14:20

% Moisture:
Basis: Wet Weight

Seq Number: 3144728

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.11.2020 18:21	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.11.2020 18:21	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.11.2020 18:21	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.11.2020 18:21	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.11.2020 18:21	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.11.2020 18:21	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.11.2020 18:21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	70-130	12.11.2020 18:21		
1,4-Difluorobenzene	540-36-3	90	%	70-130	12.11.2020 18:21		



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LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **SW18** Matrix: Soil Date Received: 12.10.2020 11:55
 Lab Sample Id: 680628-015 Date Collected: 12.10.2020 09:45 Sample Depth: 0 - 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.14.2020 16:44 % Moisture:
 Seq Number: 3145019 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	29.4	10.0	mg/kg	12.15.2020 15:34		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.10.2020 17:33 % Moisture:
 Seq Number: 3144745 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.12.2020 04:40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.12.2020 04:40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.12.2020 04:40	U	1
Total GRO-DRO	PHC628	<50.30	50.30	mg/kg	12.12.2020 04:40	U	1
Total TPH	PHC635	<50.30	50.30	mg/kg	12.12.2020 04:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	120	%	70-135	12.12.2020 04:40	
o-Terphenyl	84-15-1	113	%	70-135	12.12.2020 04:40	



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LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **SW18**
Lab Sample Id: 680628-015

Matrix: Soil
Date Collected: 12.10.2020 09:45

Date Received: 12.10.2020 11:55
Sample Depth: 0 - 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 14:20

% Moisture:
Basis: Wet Weight

Seq Number: 3144728

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.2020 18:43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.2020 18:43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.2020 18:43	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.11.2020 18:43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.2020 18:43	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.11.2020 18:43	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.11.2020 18:43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	118	%	70-130	12.11.2020 18:43		
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.11.2020 18:43		



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JRV 21 SWD Riser

Sample Id: **SW19** Matrix: Soil Date Received: 12.10.2020 11:55
 Lab Sample Id: 680628-016 Date Collected: 12.10.2020 09:50 Sample Depth: 0 - 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.14.2020 16:44 % Moisture:
 Seq Number: 3145019 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	30.4	9.98	mg/kg	12.15.2020 15:40		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.10.2020 17:33 % Moisture:
 Seq Number: 3144745 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.12.2020 05:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.12.2020 05:00	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.12.2020 05:00	U	1
Total GRO-DRO	PHC628	<49.90	49.90	mg/kg	12.12.2020 05:00	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.12.2020 05:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	99	%	70-135	12.12.2020 05:00	
o-Terphenyl	84-15-1	109	%	70-135	12.12.2020 05:00	



Certificate of Analytical Results 680628

LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **SW19**
Lab Sample Id: 680628-016

Matrix: Soil
Date Collected: 12.10.2020 09:50

Date Received: 12.10.2020 11:55
Sample Depth: 0 - 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 14:20

% Moisture:
Basis: Wet Weight

Seq Number: 3144728

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.11.2020 19:06	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.11.2020 19:06	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.11.2020 19:06	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.11.2020 19:06	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.11.2020 19:06	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.11.2020 19:06	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.11.2020 19:06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.11.2020 19:06		
4-Bromofluorobenzene	460-00-4	119	%	70-130	12.11.2020 19:06		



Certificate of Analytical Results 680628

LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **SW20**
Lab Sample Id: 680628-017

Matrix: Soil
Date Collected: 12.10.2020 09:55

Date Received: 12.10.2020 11:55
Sample Depth: 0 - 2 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 16:44

% Moisture:
Basis: Wet Weight

Seq Number: 3145019

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	22.8	9.90	mg/kg	12.15.2020 15:46		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.10.2020 17:33

% Moisture:
Basis: Wet Weight

Seq Number: 3144745

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.12.2020 05:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.12.2020 05:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.12.2020 05:20	U	1
Total GRO-DRO	PHC628	<50.00	50.00	mg/kg	12.12.2020 05:20	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.12.2020 05:20	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	12.12.2020 05:20	
o-Terphenyl	84-15-1	102	%	70-135	12.12.2020 05:20	



Certificate of Analytical Results 680628

LT Environmental, Inc., Arvada, CO

JRV 21 SWD Riser

Sample Id: **SW20**
Lab Sample Id: 680628-017

Matrix: Soil
Date Collected: 12.10.2020 09:55

Date Received: 12.10.2020 11:55
Sample Depth: 0 - 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 14:20

% Moisture:
Basis: Wet Weight

Seq Number: 3144728

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.11.2020 20:26	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.2020 20:26	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.2020 20:26	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.11.2020 20:26	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.2020 20:26	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.11.2020 20:26	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.11.2020 20:26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	113	%	70-130	12.11.2020 20:26		
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.11.2020 20:26		

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



LT Environmental, Inc.

JRV 21 SWD Riser

Analytical Method: Chloride by EPA 300

Seq Number: 3144748

MB Sample Id: 7716953-1-BLK

Matrix: Solid

LCS Sample Id: 7716953-1-BKS

Prep Method: E300P

Date Prep: 12.11.2020

LCSD Sample Id: 7716953-1-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	243	97	246	98	90-110	1	20	mg/kg	12.11.2020 20:28	

Analytical Method: Chloride by EPA 300

Seq Number: 3145019

MB Sample Id: 7717075-1-BLK

Matrix: Solid

LCS Sample Id: 7717075-1-BKS

Prep Method: E300P

Date Prep: 12.14.2020

LCSD Sample Id: 7717075-1-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	264	106	263	105	90-110	0	20	mg/kg	12.15.2020 14:46	

Analytical Method: Chloride by EPA 300

Seq Number: 3144748

Parent Sample Id: 680582-028

Matrix: Soil

MS Sample Id: 680582-028 S

Prep Method: E300P

Date Prep: 12.11.2020

MSD Sample Id: 680582-028 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	471	202	655	91	657	93	90-110	0	20	mg/kg	12.11.2020 20:43	

Analytical Method: Chloride by EPA 300

Seq Number: 3144748

Parent Sample Id: 680628-003

Matrix: Soil

MS Sample Id: 680628-003 S

Prep Method: E300P

Date Prep: 12.11.2020

MSD Sample Id: 680628-003 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	5190	248	5440	101	5440	101	90-110	0	20	mg/kg	12.11.2020 21:54	

Analytical Method: Chloride by EPA 300

Seq Number: 3145019

Parent Sample Id: 680628-013

Matrix: Soil

MS Sample Id: 680628-013 S

Prep Method: E300P

Date Prep: 12.14.2020

MSD Sample Id: 680628-013 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3040	202	3230	94	3240	99	90-110	0	20	mg/kg	12.15.2020 15:16	

Analytical Method: Chloride by EPA 300

Seq Number: 3145019

Parent Sample Id: 680634-006

Matrix: Soil

MS Sample Id: 680634-006 S

Prep Method: E300P

Date Prep: 12.14.2020

MSD Sample Id: 680634-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	12300	200	12500	100	12500	101	90-110	0	20	mg/kg	12.15.2020 16:40	

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

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

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

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



LT Environmental, Inc.

JRV 21 SWD Riser

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144742

MB Sample Id: 7716876-1-BLK

Matrix: Solid

LCS Sample Id: 7716876-1-BKS

Prep Method: SW8015P

Date Prep: 12.10.2020

LCSD Sample Id: 7716876-1-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	1070	107	1040	104	70-135	3	35	mg/kg	12.11.2020 13:49	
Diesel Range Organics (DRO)	<50.0	1000	1020	102	1050	105	70-135	3	35	mg/kg	12.11.2020 13:49	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	97		98		108		70-135	%	12.11.2020 13:49
o-Terphenyl	93		107		108		70-135	%	12.11.2020 13:49

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144745

MB Sample Id: 7716879-1-BLK

Matrix: Solid

LCS Sample Id: 7716879-1-BKS

Prep Method: SW8015P

Date Prep: 12.10.2020

LCSD Sample Id: 7716879-1-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	990	99	1060	106	70-135	7	35	mg/kg	12.11.2020 22:58	
Diesel Range Organics (DRO)	<50.0	1000	1080	108	922	92	70-135	16	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	107		113		98		70-135	%	12.11.2020 22:58
o-Terphenyl	111		114		101		70-135	%	12.11.2020 22:58

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144742

Matrix: Solid

MB Sample Id: 7716876-1-BLK

Prep Method: SW8015P

Date Prep: 12.10.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.11.2020 13:29	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144745

Matrix: Solid

MB Sample Id: 7716879-1-BLK

Prep Method: SW8015P

Date Prep: 12.10.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.11.2020 22:38	

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

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

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

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



LT Environmental, Inc.

JRV 21 SWD Riser

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144742

Parent Sample Id: 680487-001

Matrix: Soil

MS Sample Id: 680487-001 S

Prep Method: SW8015P

Date Prep: 12.10.2020

MSD Sample Id: 680487-001 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)	<49.8	995	1130	114	1050	105	70-135	7	35	mg/kg	12.11.2020 14:51	
Diesel Range Organics (DRO)	<49.8	995	994	100	964	97	70-135	3	35	mg/kg	12.11.2020 14:51	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		115		70-135	%	12.11.2020 14:51
o-Terphenyl	115		118		70-135	%	12.11.2020 14:51

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144745

Parent Sample Id: 680628-003

Matrix: Soil

MS Sample Id: 680628-003 S

Prep Method: SW8015P

Date Prep: 12.10.2020

MSD Sample Id: 680628-003 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)	<49.9	997	1090	109	1060	106	70-135	3	35	mg/kg	12.11.2020 23:58	
Diesel Range Organics (DRO)	<49.9	997	1140	114	996	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	107		115		70-135	%	12.11.2020 23:58
o-Terphenyl	101		100		70-135	%	12.11.2020 23:58

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144684

MB Sample Id: 7716918-1-BLK

Matrix: Solid

LCS Sample Id: 7716918-1-BKS

Prep Method: SW5035A

Date Prep: 12.11.2020

LCSD Sample Id: 7716918-1-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	0.100	100	0.0939	94	70-130	6	35	mg/kg	12.11.2020 12:43	
Toluene	<0.00200	0.100	0.0970	97	0.0945	95	70-130	3	35	mg/kg	12.11.2020 12:43	
Ethylbenzene	<0.00200	0.100	0.0898	90	0.0874	87	71-129	3	35	mg/kg	12.11.2020 12:43	
m,p-Xylenes	<0.00400	0.200	0.183	92	0.179	90	70-135	2	35	mg/kg	12.11.2020 12:43	
o-Xylene	<0.00200	0.100	0.0901	90	0.0875	88	71-133	3	35	mg/kg	12.11.2020 12:43	

Surrogate

	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		96		93		70-130	%	12.11.2020 12:43
4-Bromofluorobenzene	77		84		87		70-130	%	12.11.2020 12:43

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

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

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

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



LT Environmental, Inc.

JRV 21 SWD Riser

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144728

Matrix: Solid

Prep Method: SW5035A

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

Seq Number: 3144684

Matrix: Soil

Prep Method: SW5035A

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
Benzene	<0.00201	0.101	0.130	129	0.126	125	70-130	3	35	mg/kg	12.11.2020 13:28	
Toluene	<0.00201	0.101	0.124	123	0.119	118	70-130	4	35	mg/kg	12.11.2020 13:28	
Ethylbenzene	<0.00201	0.101	0.116	115	0.104	103	71-129	11	35	mg/kg	12.11.2020 13:28	
m,p-Xylenes	<0.00402	0.201	0.230	114	0.211	105	70-135	9	35	mg/kg	12.11.2020 13:28	
o-Xylene	<0.00201	0.101	0.117	116	0.105	104	71-133	11	35	mg/kg	12.11.2020 13:28	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	100		94		70-130	%	12.11.2020 13:28
4-Bromofluorobenzene	85		89		70-130	%	12.11.2020 13:28

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144728

Matrix: Soil

Prep Method: SW5035A

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
Relative Percent Difference
LCS/LCSD Recovery
Log Difference

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

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

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



Chain of Custody

Work Order No: 680628

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
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8900) Tampa, FL (813-620-2000)

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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:	522 West Mermond
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	enaka@ltenv.com , dmoir@ltenv.com

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

Project Name:	JPLV 21 SMD River	Turn Around	
Project Number:	TE012920074	Routine	☒
P.O. Number:	Eddy County	Rush:	
Sampler's Name:	Elizabeth Naka	Due Date:	

SAMPLE RECEIPT		Temp Blank:	☒ Yes ☐ No	Wet Ice:	☒ Yes ☐ No
Temperature (°C):	3.4/3.2	Thermometer ID	TUM-003		
Received In tact:	☒ Yes ☐ No	Correction Factor:	-0.2		
Cooler Custody Seals:	☒ Yes ☐ No	Total Containers:	13		

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8015)	Chloride (EPA 8015)	Sample Comments									
FS65	S	12/10/20	0820	4'	1	X	X	X	contaminated									
FS66			0825			X	X	X										
FS67			0830			X	X	X										
FS68			0835			X	X	X										
FS69			0855			X	X	X										
FS70			0920			X	X	X										
FS71			1000	2'		X	X	X										
SW11			0840	0'-4'		X	X	X										
SW12			0845			X	X	X										
SW13			0850			X	X	X										

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

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
<i>[Signature]</i>	<i>[Signature]</i>	12-10-20 1155			

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.

1631 / 245.1 / 7470 / 7471 : Hg



Chain of Custody

Work Order No: 680628

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)

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Page 2 of 2

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Litrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	522 West Mermond
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	enaka@ltenv.com, dmoir@ltenv.com

Project Name:	TPV 21 SWD River	Turn Around	
Project Number:	TE01920074	Routine	☒
P.O. Number:	Eddy County	Rush:	
Sampler's Name:	Elizabeth Naka	Due Date:	

SAMPLE RECEIPT			
Temperature (°C):	Temp Blank:	Yes	No
Received Inact:	Yes	No	
Cooler Custody Seals:	Yes	No	N/A
Sample Custody Seals:	Yes	No	N/A
Thermometer ID		Correction Factor:	
Total Containers:			

Number of Containers			
TPH (EPA 8015)	☒	BTEX (EPA 0=8021)	☒
Chloride (EPA 300.0)	☒		

ANALYSIS REQUEST

Work Order Notes

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

Sample Comments

COIN POS. etc

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	ANALYSIS REQUEST	Work Order Notes
SW 14	S	12/10/20	0925	0'-4'	1	☒	☒	☒		
SW 15			0930	0'-4'		☒	☒	☒		
SW 16			0935	0'-4'		☒	☒	☒		
SW 17			0940	0'-4'		☒	☒	☒		
SW 18			0945	0'-2'		☒	☒	☒		
SW 19			0950	0'-2'		☒	☒	☒		
SW 20			0955	0'-2'		☒	☒	☒		

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 Ti Sn U V Zn

1631 / 245.1 / 7470 / 7471 : Hg

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 Ti U

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
ELIOT 2/1/21	Chae Lufts	12-16-20 1155			

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 12.10.2020 11.55.00 AM

Work Order #: 680628

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

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Martha Castro

Date: 12.10.2020

Checklist reviewed by:



Jessica Kramer

Date: 12.10.2020

Certificate of Analysis Summary 682137



LT Environmental, Inc., Arvada, CO

Project Name: JRU 21 SWD Riser

Project Id: TE012920074

Contact: Kalei Jennings

Project Location:

Date Received in Lab: Mon 12.21.2020 17:00

Report Date: 12.29.2020 11:50

Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	682137-001	682137-002	682137-003	682137-004	682137-005	682137-006
	<i>Field Id:</i>	FS02	FS04	FS05	FS08	FS15	FS16
	<i>Depth:</i>	2- ft	2- ft	2- ft	2- ft	2- ft	2- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.21.2020 12:47	12.21.2020 12:47	12.21.2020 12:47	12.21.2020 12:47	12.21.2020 12:47	12.21.2020 12:47
BTEX by EPA 8021B	<i>Extracted:</i>	12.21.2020 18:30	12.21.2020 18:30	12.21.2020 18:30	12.21.2020 18:30	12.21.2020 18:30	12.22.2020 14:12
	<i>Analyzed:</i>	12.22.2020 02:08	12.22.2020 02:30	12.22.2020 02:52	12.22.2020 03:15	12.21.2020 23:49	12.22.2020 17:45
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
Toluene		<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
Ethylbenzene		<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
m,p-Xylenes		<0.00399 0.00399	<0.00403 0.00403	<0.00398 0.00398	<0.00396 0.00396	<0.00399 0.00399	<0.00401 0.00401
o-Xylene		<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
Total Xylenes		<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
Total BTEX		<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00200 0.00200
Chloride by EPA 300	<i>Extracted:</i>	12.22.2020 11:00	12.22.2020 11:00	12.22.2020 11:00	12.22.2020 11:00	12.22.2020 11:00	12.22.2020 11:00
	<i>Analyzed:</i>	12.22.2020 14:26	12.22.2020 14:32	12.22.2020 14:38	12.22.2020 14:56	12.22.2020 15:02	12.22.2020 15:08
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		48.4 10.0	1290 49.9	1290 49.6	696 9.92	1030 9.98	150 10.0
TPH by SW8015 Mod SUB: T104704400-20-21	<i>Extracted:</i>	12.24.2020 08:24	12.24.2020 08:24	12.24.2020 08:24	12.24.2020 08:24	12.22.2020 17:00	12.22.2020 17:00
	<i>Analyzed:</i>	12.28.2020 21:10	12.28.2020 21:29	12.28.2020 21:48	12.28.2020 22:07	12.23.2020 00:03	12.23.2020 00:24
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Gasoline Range Hydrocarbons (GRO)		52.1 50.1	59.9 50.2	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9
Diesel Range Organics (DRO)		<50.1 50.1	<50.2 50.2	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<50.1 50.1	<50.2 50.2	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9
Total GRO-DRO		52.1 50.1	59.9 50.2	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9
Total TPH		52.1 50.1	59.9 50.2	<49.9 49.9	<50.0 50.0	<50.0 50.0	<49.9 49.9

BRL - Below Reporting Limit

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



Analytical Report 682137

for

LT Environmental, Inc.

Project Manager: Kalei Jennings

JRU 21 SWD Riser

TE012920074

12.29.2020

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: TN102385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



12.29.2020

Project Manager: **Kalei Jennings**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: Eurofins Xenco, LLC Report No(s): **682137**

JRU 21 SWD Riser

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) 682137. 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. 682137 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,

A handwritten signature in black ink that reads "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

**Sample Cross Reference 682137****LT Environmental, Inc., Arvada, CO**

JRU 21 SWD Riser

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS02	S	12.21.2020 12:47	2 ft	682137-001
FS04	S	12.21.2020 12:47	2 ft	682137-002
FS05	S	12.21.2020 12:47	2 ft	682137-003
FS08	S	12.21.2020 12:47	2 ft	682137-004
FS15	S	12.21.2020 12:47	2 ft	682137-005
FS16	S	12.21.2020 12:47	2 ft	682137-006



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: JRU 21 SWD Riser

Project ID: TE012920074
Work Order Number(s): 682137

Report Date: 12.29.2020
Date Received: 12.21.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None

Analytical non conformances and comments:

Batch: LBA-3145795 TPH by SW8015 Mod

Surrogate o-Terphenyl recovered above QC limits. Samples affected are: 7717730-1-BKS, 7717730-1-BSD.

Batch: LBA-3146183 TPH by SW8015 Mod

Surrogate 1-Chlorooctane, Surrogate o-Terphenyl recovered below QC limits. Matrix interferences is suspected; data confirmed by re-analysis.

Samples affected are: 682137-001.



Certificate of Analytical Results 682137

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS02** Matrix: Soil Date Received: 12.21.2020 17:00
 Lab Sample Id: 682137-001 Date Collected: 12.21.2020 12:47 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.22.2020 11:00 % Moisture:
 Seq Number: 3146061 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	48.4	10.0	mg/kg	12.22.2020 14:26		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ALJ
 Analyst: DVM Date Prep: 12.24.2020 08:24 % Moisture:
 Seq Number: 3146183 Basis: Wet Weight
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	52.1	50.1	mg/kg	12.28.2020 21:10		1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.28.2020 21:10	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.28.2020 21:10	U	1
Total GRO-DRO	PHC628	52.1	50.1	mg/kg	12.28.2020 21:10		1
Total TPH	PHC635	52.1	50.1	mg/kg	12.28.2020 21:10		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	61	%	70-130	12.28.2020 21:10	**
o-Terphenyl	84-15-1	62	%	70-130	12.28.2020 21:10	**



Certificate of Analytical Results 682137

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS02**
Lab Sample Id: 682137-001

Matrix: Soil
Date Collected: 12.21.2020 12:47

Date Received: 12.21.2020 17:00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.21.2020 18:30

% Moisture:
Basis: Wet Weight

Seq Number: 3145644

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.22.2020 02:08	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.22.2020 02:08	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.22.2020 02:08	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.22.2020 02:08	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.22.2020 02:08	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.22.2020 02:08	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.22.2020 02:08	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	12.22.2020 02:08	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.22.2020 02:08	



Certificate of Analytical Results 682137

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS04** Matrix: Soil Date Received: 12.21.2020 17:00
 Lab Sample Id: 682137-002 Date Collected: 12.21.2020 12:47 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.22.2020 11:00 % Moisture:
 Seq Number: 3146061 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1290	49.9	mg/kg	12.22.2020 14:32		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ALJ
 Analyst: DVM Date Prep: 12.24.2020 08:24 % Moisture:
 Seq Number: 3146183 Basis: Wet Weight
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	59.9	50.2	mg/kg	12.28.2020 21:29		1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.28.2020 21:29	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.28.2020 21:29	U	1
Total GRO-DRO	PHC628	59.9	50.2	mg/kg	12.28.2020 21:29		1
Total TPH	PHC635	59.9	50.2	mg/kg	12.28.2020 21:29		1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	91	%	70-130	12.28.2020 21:29	
o-Terphenyl	84-15-1	97	%	70-130	12.28.2020 21:29	



Certificate of Analytical Results 682137

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS04**
Lab Sample Id: 682137-002

Matrix: Soil
Date Collected: 12.21.2020 12:47

Date Received: 12.21.2020 17:00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.21.2020 18:30

% Moisture:
Basis: Wet Weight

Seq Number: 3145644

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.22.2020 02:30	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.22.2020 02:30	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.22.2020 02:30	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.22.2020 02:30	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.22.2020 02:30	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.22.2020 02:30	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.22.2020 02:30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.22.2020 02:30		
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.22.2020 02:30		



Certificate of Analytical Results 682137

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS05** Matrix: Soil Date Received: 12.21.2020 17:00
 Lab Sample Id: 682137-003 Date Collected: 12.21.2020 12:47 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.22.2020 11:00 % Moisture:
 Seq Number: 3146061 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1290	49.6	mg/kg	12.22.2020 14:38		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ALJ
 Analyst: DVM Date Prep: 12.24.2020 08:24 % Moisture:
 Seq Number: 3146183 Basis: Wet Weight
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.28.2020 21:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.28.2020 21:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.28.2020 21:48	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.28.2020 21:48	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.28.2020 21:48	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	76	%	70-130	12.28.2020 21:48	
o-Terphenyl	84-15-1	81	%	70-130	12.28.2020 21:48	



Certificate of Analytical Results 682137

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS05**
Lab Sample Id: 682137-003

Matrix: Soil
Date Collected: 12.21.2020 12:47

Date Received: 12.21.2020 17:00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.21.2020 18:30

% Moisture:
Basis: Wet Weight

Seq Number: 3145644

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.22.2020 02:52	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.22.2020 02:52	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.22.2020 02:52	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.22.2020 02:52	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.22.2020 02:52	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.22.2020 02:52	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.22.2020 02:52	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	92	%	70-130	12.22.2020 02:52	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.22.2020 02:52	



Certificate of Analytical Results 682137

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS08** Matrix: Soil Date Received: 12.21.2020 17:00
 Lab Sample Id: 682137-004 Date Collected: 12.21.2020 12:47 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.22.2020 11:00 % Moisture:
 Seq Number: 3146061 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	696	9.92	mg/kg	12.22.2020 14:56		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: ALJ
 Analyst: DVM Date Prep: 12.24.2020 08:24 % Moisture:
 Seq Number: 3146183 Basis: Wet Weight
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.28.2020 22:07	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.28.2020 22:07	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.28.2020 22:07	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.28.2020 22:07	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.28.2020 22:07	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	79	%	70-130	12.28.2020 22:07	
o-Terphenyl	84-15-1	83	%	70-130	12.28.2020 22:07	



Certificate of Analytical Results 682137

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS08**
Lab Sample Id: 682137-004

Matrix: Soil
Date Collected: 12.21.2020 12:47

Date Received: 12.21.2020 17:00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.21.2020 18:30

% Moisture:
Basis: Wet Weight

Seq Number: 3145644

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.22.2020 03:15	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.22.2020 03:15	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.22.2020 03:15	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.22.2020 03:15	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.22.2020 03:15	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.22.2020 03:15	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.22.2020 03:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.22.2020 03:15	
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.22.2020 03:15	



Certificate of Analytical Results 682137

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS15** Matrix: Soil Date Received: 12.21.2020 17:00
 Lab Sample Id: 682137-005 Date Collected: 12.21.2020 12:47 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.22.2020 11:00 % Moisture:
 Seq Number: 3146061 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1030	9.98	mg/kg	12.22.2020 15:02		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 12.22.2020 17:00 % Moisture:
 Seq Number: 3145795 Basis: Wet Weight
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.23.2020 00:03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.23.2020 00:03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.23.2020 00:03	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.23.2020 00:03	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.23.2020 00:03	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-130	12.23.2020 00:03	
o-Terphenyl	84-15-1	129	%	70-130	12.23.2020 00:03	



Certificate of Analytical Results 682137

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS15**
Lab Sample Id: 682137-005

Matrix: Soil
Date Collected: 12.21.2020 12:47

Date Received: 12.21.2020 17:00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.21.2020 18:30

% Moisture:
Basis: Wet Weight

Seq Number: 3145644

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.21.2020 23:49	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.21.2020 23:49	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.21.2020 23:49	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.21.2020 23:49	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.21.2020 23:49	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.21.2020 23:49	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.21.2020 23:49	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	82	%	70-130	12.21.2020 23:49	
1,4-Difluorobenzene	540-36-3	93	%	70-130	12.21.2020 23:49	



Certificate of Analytical Results 682137

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS16** Matrix: Soil Date Received: 12.21.2020 17:00
 Lab Sample Id: 682137-006 Date Collected: 12.21.2020 12:47 Sample Depth: 2 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.22.2020 11:00 % Moisture:
 Seq Number: 3146061 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	150	10.0	mg/kg	12.22.2020 15:08		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DVM
 Analyst: ARM Date Prep: 12.22.2020 17:00 % Moisture:
 Seq Number: 3145795 Basis: Wet Weight
 SUB: T104704400-20-21

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.23.2020 00:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.23.2020 00:24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.23.2020 00:24	U	1
Total GRO-DRO	PHC628	<49.9	49.9	mg/kg	12.23.2020 00:24	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.23.2020 00:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	114	%	70-130	12.23.2020 00:24	
o-Terphenyl	84-15-1	123	%	70-130	12.23.2020 00:24	



Certificate of Analytical Results 682137

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS16**
Lab Sample Id: 682137-006

Matrix: Soil
Date Collected: 12.21.2020 12:47

Date Received: 12.21.2020 17:00
Sample Depth: 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.22.2020 14:12

% Moisture:
Basis: Wet Weight

Seq Number: 3146051

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.22.2020 17:45	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.22.2020 17:45	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.22.2020 17:45	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.22.2020 17:45	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.22.2020 17:45	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.22.2020 17:45	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.22.2020 17:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.22.2020 17:45	
4-Bromofluorobenzene	460-00-4	120	%	70-130	12.22.2020 17:45	



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



LT Environmental, Inc.

JRU 21 SWD Riser

Analytical Method: Chloride by EPA 300

Seq Number: 3146061

MB Sample Id: 7717660-1-BLK

Matrix: Solid

Prep Method: E300P

Date Prep: 12.22.2020

LCS Sample Id: 7717660-1-BKS

LCSD Sample Id: 7717660-1-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	260	104	90-110	0	20	mg/kg	12.22.2020 12:50	

Analytical Method: Chloride by EPA 300

Seq Number: 3146061

Parent Sample Id: 682134-001

Matrix: Soil

Prep Method: E300P

Date Prep: 12.22.2020

MS Sample Id: 682134-001 S

MSD Sample Id: 682134-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	176	200	391	108	389	107	90-110	1	20	mg/kg	12.22.2020 13:08	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3145795

MB Sample Id: 7717730-1-BLK

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.22.2020

LCS Sample Id: 7717730-1-BKS

LCSD Sample Id: 7717730-1-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	1100	110	1070	107	70-130	3	20	mg/kg	12.22.2020 20:51	
Diesel Range Organics (DRO)	<50.0	1000	1170	117	1180	118	70-130	1	20	mg/kg	12.22.2020 20:51	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	108		123		122		70-130	%	12.22.2020 20:51
o-Terphenyl	128		133	**	132	**	70-130	%	12.22.2020 20:51

Analytical Method: TPH by SW8015 Mod

Seq Number: 3146183

MB Sample Id: 7718029-1-BLK

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.24.2020

LCS Sample Id: 7718029-1-BKS

LCSD Sample Id: 7718029-1-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	925	93	985	99	70-130	6	20	mg/kg	12.28.2020 14:21	
Diesel Range Organics (DRO)	<50.0	1000	1000	100	974	97	70-130	3	20	mg/kg	12.28.2020 14:21	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	83		93		125		70-130	%	12.28.2020 14:21
o-Terphenyl	94		121		91		70-130	%	12.28.2020 14:21

Analytical Method: TPH by SW8015 Mod

Seq Number: 3145795

Matrix: Solid
MB Sample Id: 7717730-1-BLK

Prep Method: SW8015P

Date Prep: 12.22.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.22.2020 20:29	

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

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

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

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



LT Environmental, Inc.

JRU 21 SWD Riser

Analytical Method: TPH by SW8015 Mod

Seq Number: 3146183

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.24.2020

MB Sample Id: 7718029-1-BLK

Parameter

Motor Oil Range Hydrocarbons (MRO)

MB
Result

<50.0

Units

mg/kg

Analysis
Date

12.28.2020 14:02

Flag

Analytical Method: TPH by SW8015 Mod

Seq Number: 3145795

Matrix: Soil

Prep Method: SW8015P

Date Prep: 12.22.2020

Parent Sample Id: 681836-001

MS Sample Id: 681836-001 S

MSD Sample Id: 681836-001 SD

Parameter

Gasoline Range Hydrocarbons (GRO)

Parent
Result

<49.9

Spike
Amount

997

MS
Result

1160

MS
%Rec

116

MSD
Result

1110

MSD
%Rec

111

Limits

70-130

%RPD

4

RPD
Limit

20

Units

mg/kg

Analysis
Date

12.22.2020 21:55

Flag

Diesel Range Organics (DRO)

83.7

997

1180

110

1190

111

70-130

1

20

mg/kg

12.22.2020 21:55

Surrogate

1-Chlorooctane

MS
%Rec

115

MS
FlagMSD
%Rec

116

MSD
Flag

Limits

70-130

Units

%

Analysis
Date

12.22.2020 21:55

o-Terphenyl

119

123

70-130

%

12.22.2020 21:55

Analytical Method: TPH by SW8015 Mod

Seq Number: 3146183

Matrix: Soil

Prep Method: SW8015P

Date Prep: 12.24.2020

Parent Sample Id: 682011-001

MS Sample Id: 682011-001 S

MSD Sample Id: 682011-001 SD

Parameter

Gasoline Range Hydrocarbons (GRO)

Parent
Result

54.6

Spike
Amount

1000

MS
Result

915

MS
%Rec

86

MSD
Result

791

MSD
%Rec

74

Limits

70-130

%RPD

15

RPD
Limit

20

Units

mg/kg

Analysis
Date

12.28.2020 15:19

Flag

Diesel Range Organics (DRO)

<50.2

1000

998

100

839

84

70-130

17

20

mg/kg

12.28.2020 15:19

Surrogate

1-Chlorooctane

MS
%Rec

114

MS
FlagMSD
%Rec

76

MSD
Flag

Limits

70-130

Units

%

Analysis
Date

12.28.2020 15:19

o-Terphenyl

93

78

70-130

%

12.28.2020 15:19

Analytical Method: BTEX by EPA 8021B

Seq Number: 3145644

Matrix: Solid

Prep Method: SW5035A

Date Prep: 12.21.2020

MB Sample Id: 7717614-1-BLK

LCS Sample Id: 7717614-1-BKS

LCSD Sample Id: 7717614-1-BSD

Parameter

Benzene

MB
Result

<0.00200

Spike
Amount

0.100

LCS
Result

0.0951

LCS
%Rec

95

LCSD
Result

0.0942

LCSD
%Rec

94

Limits

70-130

%RPD

1

RPD
Limit

35

Units

mg/kg

Analysis
Date

12.21.2020 17:34

Flag

Toluene

<0.00200

0.100

0.0922

92

0.0914

91

70-130

1

35

mg/kg

12.21.2020 17:34

Ethylbenzene

<0.00200

0.100

0.0854

85

0.0854

85

71-129

0

35

mg/kg

12.21.2020 17:34

m,p-Xylenes

<0.00400

0.200

0.174

87

0.173

87

70-135

1

35

mg/kg

12.21.2020 17:34

o-Xylene

<0.00200

0.100

0.0868

87

0.0854

85

71-133

2

35

mg/kg

12.21.2020 17:34

Surrogate

1,4-Difluorobenzene

MB
%Rec

98

MB
FlagLCS
%Rec

94

LCS
FlagLCSD
%Rec

95

LCSD
Flag

Limits

70-130

Units

%

Analysis
Date

12.21.2020 17:34

4-Bromofluorobenzene

86

84

84

70-130

%

12.21.2020 17:34

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

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

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

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



LT Environmental, Inc.

JRU 21 SWD Riser

Analytical Method: BTEX by EPA 8021B

Seq Number: 3146051

Matrix: Solid

Prep Method: SW5035A

Date Prep: 12.22.2020

MB Sample Id: 7717927-1-BLK

LCS Sample Id: 7717927-1-BKS

LCSD Sample Id: 7717927-1-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	0.0990	99	0.104	104	70-130	5	35	mg/kg	12.22.2020 15:42	
Toluene	<0.00200	0.100	0.0946	95	0.0977	98	70-130	3	35	mg/kg	12.22.2020 15:42	
Ethylbenzene	<0.00200	0.100	0.0997	100	0.104	104	71-129	4	35	mg/kg	12.22.2020 15:42	
m,p-Xylenes	<0.00400	0.200	0.204	102	0.212	106	70-135	4	35	mg/kg	12.22.2020 15:42	
o-Xylene	<0.00200	0.100	0.102	102	0.103	103	71-133	1	35	mg/kg	12.22.2020 15:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	105		99		103		70-130	%	12.22.2020 15:42
4-Bromofluorobenzene	118		105		112		70-130	%	12.22.2020 15:42

Analytical Method: BTEX by EPA 8021B

Seq Number: 3145644

Matrix: Soil

Prep Method: SW5035A

Date Prep: 12.21.2020

Parent Sample Id: 682106-014

MS Sample Id: 682106-014 S

MSD Sample Id: 682106-014 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	0.0897	90	0.117	117	70-130	26	35	mg/kg	12.21.2020 18:19	
Toluene	<0.00200	0.0998	0.0856	86	0.119	119	70-130	33	35	mg/kg	12.21.2020 18:19	
Ethylbenzene	<0.00200	0.0998	0.0791	79	0.112	112	71-129	34	35	mg/kg	12.21.2020 18:19	
m,p-Xylenes	<0.00399	0.200	0.161	81	0.229	115	70-135	35	35	mg/kg	12.21.2020 18:19	
o-Xylene	<0.00200	0.0998	0.0781	78	0.111	111	71-133	35	35	mg/kg	12.21.2020 18:19	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		90		70-130	%	12.21.2020 18:19
4-Bromofluorobenzene	86		88		70-130	%	12.21.2020 18:19

Analytical Method: BTEX by EPA 8021B

Seq Number: 3146051

Matrix: Soil

Prep Method: SW5035A

Date Prep: 12.22.2020

Parent Sample Id: 682137-006

MS Sample Id: 682137-006 S

MSD Sample Id: 682137-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00201	0.100	0.115	115	0.116	116	70-130	1	35	mg/kg	12.22.2020 16:26	
Toluene	<0.00201	0.100	0.109	109	0.109	109	70-130	0	35	mg/kg	12.22.2020 16:26	
Ethylbenzene	<0.00201	0.100	0.113	113	0.114	114	71-129	1	35	mg/kg	12.22.2020 16:26	
m,p-Xylenes	<0.00402	0.201	0.231	115	0.232	116	70-135	0	35	mg/kg	12.22.2020 16:26	
o-Xylene	<0.00201	0.100	0.113	113	0.113	113	71-133	0	35	mg/kg	12.22.2020 16:26	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		103		70-130	%	12.22.2020 16:26
4-Bromofluorobenzene	110		112		70-130	%	12.22.2020 16:26

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

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

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

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



Houston, TX (281) 240-4200 Dallas, TX (214) 902-0350 San Antonio, TX (210) 509-5334
Midland, TX (432-704-5440) El Paso, TX (915)585-3443 Lubbock, TX (806)794-1296
Phoenix, AZ (480-355-0900) Atlanta, GA (770-449-8800) Tampa, FL (813) 281-1111
Hobbs, NM (575-392-7550)

Chain of Custody

Work Order No:

25/12/20

Project Manager:	Katie Jennings	Bill to: (if different)	Kyle Littlell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A St. Bldg 1, Unit 222	Address:	3104 E Greene St.
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM
Phone:	(432) 704-5178	Email:	jtmorrissey@ltenv.com kjenningas@ltenv.com tcasey@ltenv.com

Work Order Comments

Program: UST/PST ☐ RP ☐ Brownfields ☐ RC ☐ Superfund ☐

State of Project: NM

Reporting Level I: ☐ Level II ☐ Level III ☐ ST/UST ☐ RP ☐ Level IV ☐

Deliverables: EDD ☐ ADAPT ☐ Other:

[illegible]

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.

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 SiO ₂ Na Sr Ti Sn U V Zn			
<i>Circle Method(s) and Metal(s) to be analyzed</i>		TCLP / SPLP 6010: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Ti U			
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 		12.21.20 1706	2		
3			4		
5			6		

Revised Date 05/14/18 Rev. 2018.1

Inter-Office Shipment

IOS Number : **75419**

Date/Time: 12.22.2020

Created by: Cloe Clifton

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.:

E-Mail: jessica.kramer@eurofinset.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
682137-005	S	FS15	12.21.2020 12:47	SW8015MOD_NM	TPH by SW8015 Mod	12.28.2020	01.04.2021	JKR	GRO-DRO PHCC10C28	
682137-006	S	FS16	12.21.2020 12:47	SW8015MOD_NM	TPH by SW8015 Mod	12.28.2020	01.04.2021	JKR	GRO-DRO PHCC10C28	

Inter Office Shipment or Sample Comments:

Relinquished By:



Cloe Clifton

Date Relinquished: 12.22.2020

Received By:



Jessica Kramer

Date Received: 12.22.2020

Cooler Temperature: 2.3

Inter-Office Shipment

IOS Number : **75465**

Date/Time: 12.22.2020

Created by: Cloe Clifton

Please send report to: Jessica Kramer

Lab# From: **Carlsbad**

Delivery Priority:

Address: 1089 N Canal Street

Lab# To: **Midland**

Air Bill No.:

E-Mail: jessica.kramer@eurofinset.com

Sample Id	Matrix	Client Sample Id	Sample Collection	Method	Method Name	Lab Due	HT Due	PM	Analytes	Sign
682137-001	S	FS02	12.21.2020 12:47	SW8015MOD_NM	TPH by SW8015 Mod	12.28.2020	01.04.2021	JKR	GRO-DRO PHCC10C28	
682137-002	S	FS04	12.21.2020 12:47	SW8015MOD_NM	TPH by SW8015 Mod	12.28.2020	01.04.2021	JKR	GRO-DRO PHCC10C28	
682137-003	S	FS05	12.21.2020 12:47	SW8015MOD_NM	TPH by SW8015 Mod	12.28.2020	01.04.2021	JKR	GRO-DRO PHCC10C28	
682137-004	S	FS08	12.21.2020 12:47	SW8015MOD_NM	TPH by SW8015 Mod	12.28.2020	01.04.2021	JKR	GRO-DRO PHCC10C28	

Inter Office Shipment or Sample Comments:

Relinquished By:



Cloe Clifton

Date Relinquished: 12.22.2020

Received By:



Jessica Kramer

Date Received: 12.22.2020

Cooler Temperature: 2.3

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 75419

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sent By: Cloe Clifton

Date Sent: 12.22.2020 11.41 AM

Received By: Jessica Kramer

Date Received: 12.22.2020 03.06 PM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	2.3
#2 *Shipping container in good condition?	Yes
#3 *Samples received with appropriate temperature?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 *Custody Seals Signed and dated for Containers/coolers	Yes
#6 *IOS present?	Yes
#7 Any missing/extra samples?	No
#8 IOS agrees with sample label(s)/matrix?	Yes
#9 Sample matrix/ properties agree with IOS?	Yes
#10 Samples in proper container/ bottle?	Yes
#11 Samples properly preserved?	Yes
#12 Sample container(s) intact?	Yes
#13 Sufficient sample amount for indicated test(s)?	Yes
#14 All samples received within hold time?	Yes

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:



Jessica Kramer

Date: 12.22.2020

Inter Office Report- Sample Receipt Checklist

Sent To: Midland

IOS #: 75465

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used :

Sent By: Cloe Clifton

Date Sent: 12.22.2020 04.09 PM

Received By: Jessica Kramer

Date Received: 12.22.2020 03.06 PM

Sample Receipt Checklist

Comments

#1 *Temperature of cooler(s)?	2.3
#2 *Shipping container in good condition?	Yes
#3 *Samples received with appropriate temperature?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 *Custody Seals Signed and dated for Containers/coolers	Yes
#6 *IOS present?	Yes
#7 Any missing/extra samples?	No
#8 IOS agrees with sample label(s)/matrix?	Yes
#9 Sample matrix/ properties agree with IOS?	Yes
#10 Samples in proper container/ bottle?	Yes
#11 Samples properly preserved?	Yes
#12 Sample container(s) intact?	Yes
#13 Sufficient sample amount for indicated test(s)?	Yes
#14 All samples received within hold time?	Yes

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

NonConformance:

Corrective Action Taken:

Nonconformance Documentation

Contact: _____ Contacted by : _____ Date: _____

Checklist reviewed by:



Jessica Kramer

Date: 12.22.2020

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 12.21.2020 05.00.00 PM

Work Order #: 682137

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)?	.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?	No
#9 Chain of Custody signed when relinquished/ received?	Yes
#10 Chain of Custody agrees with sample labels/matrix?	Yes
#11 Container label(s) legible and intact?	Yes
#12 Samples in proper container/ bottle?	Yes
#13 Samples properly preserved?	Yes
#14 Sample container(s) intact?	Yes
#15 Sufficient sample amount for indicated test(s)?	Yes
#16 All samples received within hold time?	Yes
#17 Subcontract of sample(s)?	Yes
#18 Water VOC samples have zero headspace?	N/A

Samples received in bulk containers.

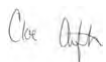
Samples 5,6 sent to Midland for TPH.

* 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: 12.21.2020

Checklist reviewed by:



Jessica Kramer

Date: 12.22.2020

Certificate of Analysis Summary 682883



LT Environmental, Inc., Arvada, CO

Project Name: JRU 21 SWD Riser

Project Id: te012920074

Date Received in Lab: Tue 12.29.2020 16:35

Contact: Dan Moir

Report Date: 01.05.2021 11:41

Project Location:

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	682883-001	682883-002	682883-003	682883-004	682883-005	
	Field Id:	FS72	FS73	FS74	FS75	FS76	
	Depth:	4- ft	4- ft	4- ft	4- ft	4- ft	
	Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	
	Sampled:	12.29.2020 14:11	12.29.2020 14:05	12.29.2020 14:00	12.29.2020 13:58	12.29.2020 13:53	
BTEX by EPA 8021B	Extracted:	12.30.2020 17:00	12.30.2020 17:00	12.30.2020 17:00	12.30.2020 17:00	12.30.2020 17:00	
	Analyzed:	12.31.2020 10:13	12.31.2020 10:35	12.31.2020 10:58	12.31.2020 11:21	12.31.2020 11:43	
	Units/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	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200	
Toluene		<0.00198 0.00198	<0.00198 0.00198	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200	
Ethylbenzene		<0.00198 0.00198	<0.00198 0.00198	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200	
m,p-Xylenes		<0.00397 0.00397	<0.00397 0.00397	<0.00403 0.00403	<0.00402 0.00402	<0.00399 0.00399	
o-Xylene		<0.00198 0.00198	<0.00198 0.00198	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200	
Total Xylenes		<0.00198 0.00198	<0.00198 0.00198	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200	
Total BTEX		<0.00198 0.00198	<0.00198 0.00198	<0.00202 0.00202	<0.00201 0.00201	<0.00200 0.00200	
Chloride by EPA 300	Extracted:	12.31.2020 08:30	12.31.2020 08:30	12.31.2020 08:30	12.31.2020 08:30	12.31.2020 08:30	
	Analyzed:	12.31.2020 10:12	12.31.2020 10:18	12.31.2020 10:24	12.31.2020 10:30	12.31.2020 10:36	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		3720 49.9	3300 49.9	2060 49.6	3660 50.1	3090 50.2	
TPH by SW8015 Mod	Extracted:	12.30.2020 17:00	12.30.2020 17:00	12.30.2020 17:00	12.30.2020 17:00	12.30.2020 17:00	
	Analyzed:	12.30.2020 19:40	12.30.2020 20:41	12.30.2020 21:01	12.30.2020 21:21	12.30.2020 21:41	
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Gasoline Range Hydrocarbons (GRO)		<50.2 50.2	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.2 50.2	
Diesel Range Organics (DRO)		<50.2 50.2	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.2 50.2	
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.2 50.2	
Total GRO-DRO		<50.2 50.2	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.2 50.2	
Total TPH		<50.2 50.2	<50.0 50.0	<49.8 49.8	<50.0 50.0	<50.2 50.2	

BRL - Below Reporting Limit

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



Analytical Report 682883

for

LT Environmental, Inc.

Project Manager: Dan Moir

JRU 21 SWD Riser

te012920074

01.05.2021

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 (T104704219-20-23)
Xenco-Midland (EPA Lab Code: TX00158): Texas (T104704400-19-21)
Xenco-Carlsbad (LELAP): Louisiana (05092)
Xenco-San Antonio (EPA Lab Code: TN102385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



01.05.2021

Project Manager: **Dan Moir**

LT Environmental, Inc.

4600 W. 60th Avenue

Arvada, CO 80003

Reference: Eurofins Xenco, LLC Report No(s): **682883**

JRU 21 SWD Riser

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) 682883. 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. 682883 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,

A handwritten signature in black ink that reads "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

**Sample Cross Reference 682883****LT Environmental, Inc., Arvada, CO**

JRU 21 SWD Riser

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS72	S	12.29.2020 14:11	4 ft	682883-001
FS73	S	12.29.2020 14:05	4 ft	682883-002
FS74	S	12.29.2020 14:00	4 ft	682883-003
FS75	S	12.29.2020 13:58	4 ft	682883-004
FS76	S	12.29.2020 13:53	4 ft	682883-005



CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: JRU 21 SWD Riser

Project ID: te012920074
Work Order Number(s): 682883

Report Date: 01.05.2021
Date Received: 12.29.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 682883

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS72** Matrix: Soil Date Received: 12.29.2020 16:35
 Lab Sample Id: 682883-001 Date Collected: 12.29.2020 14:11 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.31.2020 08:30 % Moisture:
 Seq Number: 3146517 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3720	49.9	mg/kg	12.31.2020 10:12		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.30.2020 17:00 % Moisture:
 Seq Number: 3146472 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.30.2020 19:40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.30.2020 19:40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.30.2020 19:40	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	12.30.2020 19:40	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.30.2020 19:40	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	12.30.2020 19:40	
o-Terphenyl	84-15-1	110	%	70-135	12.30.2020 19:40	



Certificate of Analytical Results 682883

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS72**
Lab Sample Id: 682883-001

Matrix: Soil
Date Collected: 12.29.2020 14:11

Date Received: 12.29.2020 16:35
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.30.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3146607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.31.2020 10:13	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.31.2020 10:13	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.31.2020 10:13	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.31.2020 10:13	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.31.2020 10:13	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.31.2020 10:13	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.31.2020 10:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	119	%	70-130	12.31.2020 10:13	
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.31.2020 10:13	



Certificate of Analytical Results 682883

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS73** Matrix: Soil Date Received: 12.29.2020 16:35
 Lab Sample Id: 682883-002 Date Collected: 12.29.2020 14:05 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.31.2020 08:30 % Moisture:
 Seq Number: 3146517 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3300	49.9	mg/kg	12.31.2020 10:18		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.30.2020 17:00 % Moisture:
 Seq Number: 3146472 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.30.2020 20:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.30.2020 20:41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.30.2020 20:41	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.30.2020 20:41	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.30.2020 20:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	112	%	70-135	12.30.2020 20:41	
o-Terphenyl	84-15-1	96	%	70-135	12.30.2020 20:41	



Certificate of Analytical Results 682883

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS73**
Lab Sample Id: 682883-002

Matrix: Soil
Date Collected: 12.29.2020 14:05

Date Received: 12.29.2020 16:35
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.30.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3146607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.31.2020 10:35	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.31.2020 10:35	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.31.2020 10:35	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.31.2020 10:35	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.31.2020 10:35	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.31.2020 10:35	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.31.2020 10:35	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	120	%	70-130	12.31.2020 10:35	
1,4-Difluorobenzene	540-36-3	108	%	70-130	12.31.2020 10:35	



Certificate of Analytical Results 682883

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS74** Matrix: Soil Date Received: 12.29.2020 16:35
 Lab Sample Id: 682883-003 Date Collected: 12.29.2020 14:00 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.31.2020 08:30 % Moisture:
 Seq Number: 3146517 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2060	49.6	mg/kg	12.31.2020 10:24		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.30.2020 17:00 % Moisture:
 Seq Number: 3146472 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.30.2020 21:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.30.2020 21:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.30.2020 21:01	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	12.30.2020 21:01	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.30.2020 21:01	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	110	%	70-135	12.30.2020 21:01	
o-Terphenyl	84-15-1	90	%	70-135	12.30.2020 21:01	



Certificate of Analytical Results 682883

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS74**
Lab Sample Id: 682883-003

Matrix: Soil
Date Collected: 12.29.2020 14:00

Date Received: 12.29.2020 16:35
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.30.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3146607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.31.2020 10:58	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.31.2020 10:58	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.31.2020 10:58	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.31.2020 10:58	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.31.2020 10:58	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.31.2020 10:58	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.31.2020 10:58	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.31.2020 10:58	
4-Bromofluorobenzene	460-00-4	123	%	70-130	12.31.2020 10:58	



Certificate of Analytical Results 682883

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS75** Matrix: Soil Date Received: 12.29.2020 16:35
 Lab Sample Id: 682883-004 Date Collected: 12.29.2020 13:58 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.31.2020 08:30 % Moisture:
 Seq Number: 3146517 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3660	50.1	mg/kg	12.31.2020 10:30		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.30.2020 17:00 % Moisture:
 Seq Number: 3146472 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.30.2020 21:21	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.30.2020 21:21	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.30.2020 21:21	U	1
Total GRO-DRO	PHC628	<50.0	50.0	mg/kg	12.30.2020 21:21	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.30.2020 21:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	12.30.2020 21:21	
o-Terphenyl	84-15-1	98	%	70-135	12.30.2020 21:21	



Certificate of Analytical Results 682883

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS75**
Lab Sample Id: 682883-004

Matrix: Soil
Date Collected: 12.29.2020 13:58

Date Received: 12.29.2020 16:35
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.30.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3146607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.31.2020 11:21	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.31.2020 11:21	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.31.2020 11:21	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.31.2020 11:21	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.31.2020 11:21	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	12.31.2020 11:21	U	1
Total BTEX		<0.00201	0.00201	mg/kg	12.31.2020 11:21	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	124	%	70-130	12.31.2020 11:21	
1,4-Difluorobenzene	540-36-3	109	%	70-130	12.31.2020 11:21	



Certificate of Analytical Results 682883

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS76** Matrix: Soil Date Received: 12.29.2020 16:35
 Lab Sample Id: 682883-005 Date Collected: 12.29.2020 13:53 Sample Depth: 4 ft
 Analytical Method: Chloride by EPA 300 Prep Method: E300P
 Tech: MAB
 Analyst: MAB Date Prep: 12.31.2020 08:30 % Moisture:
 Seq Number: 3146517 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3090	50.2	mg/kg	12.31.2020 10:36		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: CAC
 Analyst: CAC Date Prep: 12.30.2020 17:00 % Moisture:
 Seq Number: 3146472 Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.30.2020 21:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.30.2020 21:41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.30.2020 21:41	U	1
Total GRO-DRO	PHC628	<50.2	50.2	mg/kg	12.30.2020 21:41	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.30.2020 21:41	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	12.30.2020 21:41	
o-Terphenyl	84-15-1	96	%	70-135	12.30.2020 21:41	



Certificate of Analytical Results 682883

LT Environmental, Inc., Arvada, CO

JRU 21 SWD Riser

Sample Id: **FS76**
Lab Sample Id: 682883-005

Matrix: Soil
Date Collected: 12.29.2020 13:53

Date Received: 12.29.2020 16:35
Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.30.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3146607

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.31.2020 11:43	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.31.2020 11:43	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.31.2020 11:43	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.31.2020 11:43	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.31.2020 11:43	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.31.2020 11:43	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.31.2020 11:43	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	101	%	70-130	12.31.2020 11:43	
4-Bromofluorobenzene	460-00-4	118	%	70-130	12.31.2020 11:43	

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



LT Environmental, Inc.

JRU 21 SWD Riser

Analytical Method: Chloride by EPA 300

Seq Number: 3146517

MB Sample Id: 7718218-1-BLK

Matrix: Solid

LCS Sample Id: 7718218-1-BKS

Prep Method: E300P

Date Prep: 12.31.2020

LCSD Sample Id: 7718218-1-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	251	100	253	101	90-110	1	20	mg/kg	12.31.2020 09:06	

Analytical Method: Chloride by EPA 300

Seq Number: 3146517

Parent Sample Id: 682818-001

Matrix: Soil

MS Sample Id: 682818-001 S

Prep Method: E300P

Date Prep: 12.31.2020

MSD Sample Id: 682818-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	70.8	199	275	103	275	103	90-110	0	20	mg/kg	12.31.2020 09:24	

Analytical Method: Chloride by EPA 300

Seq Number: 3146517

Parent Sample Id: 683014-001

Matrix: Soil

MS Sample Id: 683014-001 S

Prep Method: E300P

Date Prep: 12.31.2020

MSD Sample Id: 683014-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	105	200	295	95	293	94	90-110	1	20	mg/kg	12.31.2020 10:48	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3146472

MB Sample Id: 7718214-1-BLK

Matrix: Solid

LCS Sample Id: 7718214-1-BKS

Prep Method: SW8015P

Date Prep: 12.30.2020

LCSD Sample Id: 7718214-1-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	1150	115	70-135	6	35	mg/kg	12.30.2020 18:58	
Diesel Range Organics (DRO)	<50.0	1000	1040	104	1100	110	70-135	6	35	mg/kg	12.30.2020 18:58	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	95		104		118		70-135	%	12.30.2020 18:58
o-Terphenyl	95		114		94		70-135	%	12.30.2020 18:58

Analytical Method: TPH by SW8015 Mod

Seq Number: 3146472

Matrix: Solid

MB Sample Id: 7718214-1-BLK

Prep Method: SW8015P

Date Prep: 12.30.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.30.2020 18:38	

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

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

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

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



LT Environmental, Inc.

JRU 21 SWD Riser

Analytical Method: TPH by SW8015 Mod

Seq Number: 3146472

Parent Sample Id: 682883-001

Matrix: Soil

MS Sample Id: 682883-001 S

Prep Method: SW8015P

Date Prep: 12.30.2020

MSD Sample Id: 682883-001 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	1190	119	1020	102	70-135	15	35	mg/kg	12.30.2020 20:00	
Diesel Range Organics (DRO)	<49.9	997	881	88	945	95	70-135	7	35	mg/kg	12.30.2020 20:00	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	121		105		70-135	%	12.30.2020 20:00
o-Terphenyl	106		118		70-135	%	12.30.2020 20:00

Analytical Method: BTEX by EPA 8021B

Seq Number: 3146607

MB Sample Id: 7718258-1-BLK

Matrix: Solid

LCS Sample Id: 7718258-1-BKS

Prep Method: SW5035A

Date Prep: 12.30.2020

LCSD Sample Id: 7718258-1-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	0.0892	89	0.0896	90	70-130	0	35	mg/kg	12.31.2020 08:08	
Toluene	<0.00200	0.100	0.0853	85	0.0830	83	70-130	3	35	mg/kg	12.31.2020 08:08	
Ethylbenzene	<0.00200	0.100	0.0920	92	0.0849	85	71-129	8	35	mg/kg	12.31.2020 08:08	
m,p-Xylenes	<0.00400	0.200	0.186	93	0.179	90	70-135	4	35	mg/kg	12.31.2020 08:08	
o-Xylene	<0.00200	0.100	0.0957	96	0.0890	89	71-133	7	35	mg/kg	12.31.2020 08:08	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		99		99		70-130	%	12.31.2020 08:08
4-Bromofluorobenzene	114		109		108		70-130	%	12.31.2020 08:08

Analytical Method: BTEX by EPA 8021B

Seq Number: 3146607

Parent Sample Id: 682883-001

Matrix: Soil

MS Sample Id: 682883-001 S

Prep Method: SW5035A

Date Prep: 12.30.2020

MSD Sample Id: 682883-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0996	0.0967	97	0.0893	90	70-130	8	35	mg/kg	12.31.2020 08:53	
Toluene	<0.00199	0.0996	0.0883	89	0.0798	80	70-130	10	35	mg/kg	12.31.2020 08:53	
Ethylbenzene	<0.00199	0.0996	0.0926	93	0.0767	77	71-129	19	35	mg/kg	12.31.2020 08:53	
m,p-Xylenes	<0.00398	0.199	0.190	95	0.156	79	70-135	20	35	mg/kg	12.31.2020 08:53	
o-Xylene	<0.00199	0.0996	0.0932	94	0.0823	83	71-133	12	35	mg/kg	12.31.2020 08:53	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		102		70-130	%	12.31.2020 08:53
4-Bromofluorobenzene	114		113		70-130	%	12.31.2020 08:53

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

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

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

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



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: 1682583

Project Manager:	Katie Jennings	Bill to: (if different)	Kyle Littrell
Company Name:	LT Environmental, Inc., Permian office	Company Name:	XTO Energy
Address:	3300 North A St. Bldg 1, Unit 222	Address:	3104 E Greene St.
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM
Phone:	(432) 704-5178	Email:	timorrissey@ltenv.com kjenning@ltenv.com tcasey@ltenv.com

Program: ☐ UST/PST ☐ PRP ☐ Brownfields ☐ RC ☐ Superfund State of Project: NM Reporting Level: ☐ I ☐ II ☐ III ☐ IV ☐ V Deliverables: EDD ☐ ADAPT ☐ Other:	
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Project Name:	FEU 21 5438 Riser	Turn Around	☒
Project Number:	FE012920074	Rush:	
P.O. Number:		Due Date:	
Sampler's Name:	Travis Casey		

6:21 AM

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Num	TPH	BTEX	Chlor																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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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 Ti 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 Ti 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
<i>[Signature]</i>	<i>[Signature]</i>	12-29-20 1635			

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 12.29.2020 04.35.00 PM

Work Order #: 682883

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

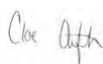
Samples received in bulk containers.

* 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: 12.29.2020

Checklist reviewed by:



Jessica Kramer

Date: 12.30.2020

Certificate of Analysis Summary 684594



WSP USA, Dallas, TX

Project Name: JRU 21 SWD Riser

Project Id: TE012920074

Contact: Dan Moir

Project Location:

Date Received in Lab: Wed 01.13.2021 15:25

Report Date: 01.15.2021 14:08

Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	684594-001	684594-002	684594-003			
	Field Id:	FS14	SS16	SS17			
	Depth:	4.0- ft	0.5- ft	0.5- ft			
	Matrix:	SOIL	SOIL	SOIL			
	Sampled:	01.13.2021 13:16	01.13.2021 13:43	01.13.2021 13:48			
BTEX by EPA 8021B	Extracted:	01.14.2021 13:02	01.14.2021 13:02	01.14.2021 13:02			
	Analyzed:	01.14.2021 18:05	01.14.2021 18:28	01.14.2021 18:50			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
		<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198			
Benzene							
Toluene							
Ethylbenzene							
m,p-Xylenes							
o-Xylene							
Total Xylenes							
Total BTEX							
Chloride by EPA 300	Extracted:	01.13.2021 16:34	01.13.2021 16:34	01.13.2021 16:34			
	Analyzed:	01.14.2021 01:00	01.14.2021 01:06	01.14.2021 01:12			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
		3460 50.5	17.9 10.0	<9.90 9.90			
Chloride							
TPH by SW8015 Mod	Extracted:	01.13.2021 17:46	01.13.2021 17:46	01.13.2021 17:46			
	Analyzed:	01.14.2021 06:16	01.14.2021 07:16	01.14.2021 07:36			
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL			
		<50.3 50.3	<50.1 50.1	<49.8 49.8			
Gasoline Range Hydrocarbons (GRO)							
Diesel Range Organics (DRO)							
Motor Oil Range Hydrocarbons (MRO)							
Total GRO-DRO							
Total TPH							

BRL - Below Reporting Limit

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



Analytical Report 684594

for

WSP USA

Project Manager: Dan Moir

JRU 21 SWD Riser

TE012920074

01.15.2021

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: TN102385): Texas (T104704534-20-8)
Xenco-Tampa: Florida (E87429), North Carolina (483)



01.15.2021

Project Manager: **Dan Moir**

WSP USA

2777 N. Stemmons Freeway, Suite 1600
Dallas, TX 75207

Reference: Eurofins Xenco, LLC Report No(s): **684594**

JRU 21 SWD Riser

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) 684594. 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. 684594 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,

A handwritten signature in black ink that reads "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



Sample Cross Reference 684594

WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS14	S	01.13.2021 13:16	4.0 ft	684594-001
SS16	S	01.13.2021 13:43	0.5 ft	684594-002
SS17	S	01.13.2021 13:48	0.5 ft	684594-003



CASE NARRATIVE

Client Name: WSP USA

Project Name: JRU 21 SWD Riser

Project ID: TE012920074
Work Order Number(s): 684594

Report Date: 01.15.2021
Date Received: 01.13.2021

Sample receipt non conformances and comments:

None

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 684594

WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **FS14**
Lab Sample Id: 684594-001

Matrix: Soil
Date Collected: 01.13.2021 13:16

Date Received: 01.13.2021 15:25
Sample Depth: 4.0 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 01.13.2021 16:34

% Moisture:
Basis: Wet Weight

Seq Number: 3147754

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3460	50.5	mg/kg	01.14.2021 01:00		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 01.13.2021 17:46

% Moisture:
Basis: Wet Weight

Seq Number: 3147805

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	01.14.2021 06:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	01.14.2021 06:16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	01.14.2021 06:16	U	1
Total GRO-DRO	PHC628	<50.3	50.3	mg/kg	01.14.2021 06:16	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	01.14.2021 06:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	101	%	70-135	01.14.2021 06:16	
o-Terphenyl	84-15-1	110	%	70-135	01.14.2021 06:16	



Certificate of Analytical Results 684594

WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **FS14**
Lab Sample Id: 684594-001

Matrix: Soil
Date Collected: 01.13.2021 13:16

Date Received: 01.13.2021 15:25
Sample Depth: 4.0 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 01.14.2021 13:02

% Moisture:
Basis: Wet Weight

Seq Number: 3147919

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.14.2021 18:05	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.14.2021 18:05	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.14.2021 18:05	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.14.2021 18:05	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.14.2021 18:05	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.14.2021 18:05	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.14.2021 18:05	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	91	%	70-130	01.14.2021 18:05	
1,4-Difluorobenzene	540-36-3	100	%	70-130	01.14.2021 18:05	



Certificate of Analytical Results 684594

WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **SS16**
Lab Sample Id: 684594-002

Matrix: Soil
Date Collected: 01.13.2021 13:43

Date Received: 01.13.2021 15:25
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 01.13.2021 16:34

% Moisture:
Basis: Wet Weight

Seq Number: 3147754

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	17.9	10.0	mg/kg	01.14.2021 01:06		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 01.13.2021 17:46

% Moisture:
Basis: Wet Weight

Seq Number: 3147805

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	01.14.2021 07:16	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	01.14.2021 07:16	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	01.14.2021 07:16	U	1
Total GRO-DRO	PHC628	<50.1	50.1	mg/kg	01.14.2021 07:16	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	01.14.2021 07:16	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	104	%	70-135	01.14.2021 07:16	
o-Terphenyl	84-15-1	118	%	70-135	01.14.2021 07:16	



Certificate of Analytical Results 684594

WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **SS16**
Lab Sample Id: 684594-002

Matrix: Soil
Date Collected: 01.13.2021 13:43

Date Received: 01.13.2021 15:25
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 01.14.2021 13:02

% Moisture:
Basis: Wet Weight

Seq Number: 3147919

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	01.14.2021 18:28	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	01.14.2021 18:28	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	01.14.2021 18:28	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	01.14.2021 18:28	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	01.14.2021 18:28	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	01.14.2021 18:28	U	1
Total BTEX		<0.00200	0.00200	mg/kg	01.14.2021 18:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	01.14.2021 18:28	
1,4-Difluorobenzene	540-36-3	103	%	70-130	01.14.2021 18:28	



Certificate of Analytical Results 684594

WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **SS17**
Lab Sample Id: 684594-003

Matrix: Soil
Date Collected: 01.13.2021 13:48

Date Received: 01.13.2021 15:25
Sample Depth: 0.5 ft

Analytical Method: Chloride by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 01.13.2021 16:34

% Moisture:
Basis: Wet Weight

Seq Number: 3147754

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.90	9.90	mg/kg	01.14.2021 01:12	U	1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 01.13.2021 17:46

% Moisture:
Basis: Wet Weight

Seq Number: 3147805

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	01.14.2021 07:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	01.14.2021 07:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	01.14.2021 07:36	U	1
Total GRO-DRO	PHC628	<49.8	49.8	mg/kg	01.14.2021 07:36	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	01.14.2021 07:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	115	%	70-135	01.14.2021 07:36	
o-Terphenyl	84-15-1	112	%	70-135	01.14.2021 07:36	



Certificate of Analytical Results 684594

WSP USA, Dallas, TX

JRU 21 SWD Riser

Sample Id: **SS17**
Lab Sample Id: 684594-003

Matrix: Soil
Date Collected: 01.13.2021 13:48

Date Received: 01.13.2021 15:25
Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 01.14.2021 13:02

% Moisture:
Basis: Wet Weight

Seq Number: 3147919

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	01.14.2021 18:50	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	01.14.2021 18:50	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	01.14.2021 18:50	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	01.14.2021 18:50	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	01.14.2021 18:50	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	01.14.2021 18:50	U	1
Total BTEX		<0.00198	0.00198	mg/kg	01.14.2021 18:50	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	102	%	70-130	01.14.2021 18:50	
4-Bromofluorobenzene	460-00-4	95	%	70-130	01.14.2021 18:50	



Flagging Criteria

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

** Surrogate recovered outside laboratory control limit.

BRL Below Reporting Limit. **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



WSP USA
JRU 21 SWD Riser

Analytical Method: Chloride by EPA 300

Seq Number: 3147754

MB Sample Id: 7719121-1-BLK

Matrix: Solid

LCS Sample Id: 7719121-1-BKS

Prep Method: E300P

Date Prep: 01.13.2021

LCSD Sample Id: 7719121-1-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	250	100	251	100	90-110	0	20	mg/kg	01.14.2021 00:24	

Analytical Method: Chloride by EPA 300

Seq Number: 3147754

Parent Sample Id: 684487-009

Matrix: Soil

MS Sample Id: 684487-009 S

Prep Method: E300P

Date Prep: 01.13.2021

MSD Sample Id: 684487-009 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	23.9	198	220	99	224	99	90-110	2	20	mg/kg	01.14.2021 00:42	

Analytical Method: Chloride by EPA 300

Seq Number: 3147754

Parent Sample Id: 684604-006

Matrix: Soil

MS Sample Id: 684604-006 S

Prep Method: E300P

Date Prep: 01.13.2021

MSD Sample Id: 684604-006 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3620	202	3820	99	3840	109	90-110	1	20	mg/kg	01.14.2021 02:06	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3147805

MB Sample Id: 7719125-1-BLK

Matrix: Solid

LCS Sample Id: 7719125-1-BKS

Prep Method: SW8015P

Date Prep: 01.13.2021

LCSD Sample Id: 7719125-1-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	1070	107	70-135	6	35	mg/kg	01.14.2021 05:36	
Diesel Range Organics (DRO)	<50.0	1000	1080	108	1090	109	70-135	1	35	mg/kg	01.14.2021 05:36	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		104		105		70-135	%	01.14.2021 05:36
o-Terphenyl	109		109		119		70-135	%	01.14.2021 05:36

Analytical Method: TPH by SW8015 Mod

Seq Number: 3147805

Matrix: Solid

MB Sample Id: 7719125-1-BLK

Prep Method: SW8015P

Date Prep: 01.13.2021

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	01.14.2021 05:16	

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

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

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

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



WSP USA
JRJ 21 SWD Riser

Analytical Method: TPH by SW8015 Mod

Seq Number: 3147805

Parent Sample Id: 684594-001

Matrix: Soil

MS Sample Id: 684594-001 S

Prep Method: SW8015P

Date Prep: 01.13.2021

MSD Sample Id: 684594-001 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)	<50.1	1000	1210	121	1200	120	70-135	1	35	mg/kg	01.14.2021 06:36	
Diesel Range Organics (DRO)	<50.1	1000	1230	123	1130	113	70-135	8	35	mg/kg	01.14.2021 06:36	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	110		113		70-135	%	01.14.2021 06:36
o-Terphenyl	94		108		70-135	%	01.14.2021 06:36

Analytical Method: BTEX by EPA 8021B

Seq Number: 3147919

MB Sample Id: 7719206-1-BLK

Matrix: Solid

LCS Sample Id: 7719206-1-BKS

Prep Method: SW5035A

Date Prep: 01.14.2021

LCSD Sample Id: 7719206-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00200	0.100	0.103	103	0.102	102	70-130	1	35	mg/kg	01.14.2021 16:03	
Toluene	<0.00200	0.100	0.0980	98	0.0989	99	70-130	1	35	mg/kg	01.14.2021 16:03	
Ethylbenzene	<0.00200	0.100	0.0911	91	0.0920	92	71-129	1	35	mg/kg	01.14.2021 16:03	
m,p-Xylenes	<0.00400	0.200	0.185	93	0.187	94	70-135	1	35	mg/kg	01.14.2021 16:03	
o-Xylene	<0.00200	0.100	0.0919	92	0.0918	92	71-133	0	35	mg/kg	01.14.2021 16:03	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		95		96		70-130	%	01.14.2021 16:03
4-Bromofluorobenzene	89		87		88		70-130	%	01.14.2021 16:03

Analytical Method: BTEX by EPA 8021B

Seq Number: 3147919

Parent Sample Id: 684594-001

Matrix: Soil

MS Sample Id: 684594-001 S

Prep Method: SW5035A

Date Prep: 01.14.2021

MSD Sample Id: 684594-001 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	0.117	117	0.0964	96	70-130	19	35	mg/kg	01.14.2021 16:48	
Toluene	<0.00200	0.100	0.113	113	0.0919	92	70-130	21	35	mg/kg	01.14.2021 16:48	
Ethylbenzene	<0.00200	0.100	0.104	104	0.0841	84	71-129	21	35	mg/kg	01.14.2021 16:48	
m,p-Xylenes	<0.00401	0.200	0.211	106	0.171	86	70-135	21	35	mg/kg	01.14.2021 16:48	
o-Xylene	<0.00200	0.100	0.103	103	0.0825	83	71-133	22	35	mg/kg	01.14.2021 16:48	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		96		70-130	%	01.14.2021 16:48
4-Bromofluorobenzene	90		89		70-130	%	01.14.2021 16:48

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

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

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

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



Chain of Custody

Work Order No: 1084594

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

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Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	WSP USA	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	522 W. Mermod St.
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	jeremy.hill@wsp.com, Dan.Moir@wsp.com

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

Project Name:	TE 01598074	Turn Around	Routine
Project Number:	TE 01598074	Rush:	
P.O. Number:	TE 01598074	Due Date:	
Sampler's Name:	Jeremy Hill		

SAMPLE RECEIPT	Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	0.4/0.2	Thermometer ID				
Received Intact:	Yes	No	Correction Factor: -0.2			
Cooler Custody Seals:	Yes	No	Total Containers: 3			
Sample Custody Seals:	Yes	No				

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH (EPA 8015)	BTEX (EPA 8015)	Chloride (EPA 8015)											Sample Comments
FS14	S	1/13/21	1316	4.0'	1	X	X	X											Composite
SS16	↓		1343	0.5'	↓	↓	↓	↓											discrete
SS17		↓	1348	0.5'															discrete

Total 200.7 / 6010 200.8 / 6020: 8RCRA 13PPM Texas 11 Al Sb As Ba Be B Cd Ca Cr Co Cu Pb Mn Mo Ni K Se Ag SiO2 Na Sr Ti 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 Ti 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
<i>[Signature]</i>	<i>[Signature]</i>	1/13/21 1525			
		2			
		4			
		6			

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 17109

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 17109
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
chensley	None	8/19/2021