

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	NAB1504757628
District RP	2RP-2812
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party: WPX Energy Permian, LLC	OGRIDL: 246289
Contact Name: Jim Raley	Contact Telephone: 575- 689-7597
Contact email: jim.raley@dvn.com	Incident # (assigned by OCD) NAB1504757628
Contact mailing address: 5315 Buena Vista Dr, Carlsbad, NM, 88220	

Location of Release Source

Latitude 32.012452 Longitude -103.858384
(NAD 83 in decimal degrees to 5 decimal places)

Site Name: Ross Draw 14	Site Type: Oil and Gas Well
Date Release Discovered 2/11/2015	API# (if applicable) :30-015-25208

Unit Letter	Section	Township	Range	County
L	26	26S	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) 12 Oil & PW	Volume Recovered (bbls) 12 Oil & PW
☐ Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride 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:

Tubing and casing valves were inadvertently closed, causing the wellbore to pressure up and blow out the packing.

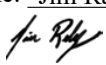
$$bbl\ estimate = \frac{saturated\ soil\ volume(ft^3)}{4.21(\frac{ft^3}{bbl\ equivalent})} * estimated\ soil\ porosity\ (%) + recovered\ fluids\ (bbls)$$

Incident ID	NAB1504757628
District RP	2RP-2812
Facility ID	
Application ID	

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?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

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:	
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: <u>Jim Raley</u>	Title: <u>Environmental Professional</u>
Signature: <u></u>	Date: <u>11/11/2022</u>
email: <u>jim.raley@dvn.com</u>	Telephone: <u>575-689-7597</u>
<u>OCD Only</u>	
Received by: <u>Jocelyn Harimon</u>	Date: <u>11/14/2022</u>

Incident ID	NAB1504757628
District RP	2RP-2812
Facility ID	
Application ID	

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

Page 4

Incident ID	NAB1504757628
District RP	2RP-2812
Facility ID	
Application ID	

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: Jim Raley Title: Environmental ProfessionalSignature:  Date: 11/11/2022email: jim.raley@dm.com Telephone: 575-689-7597**OCD Only**Received by: Jocelyn Harimon Date: 11/14/2022

Incident ID	NAB1504757628
District RP	2RP-2812
Facility ID	
Application ID	

Closure

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

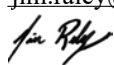
Closure Report Attachment Checklist: *Each of the following items must be included in the closure report.*

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: jim.raley@dvsn.com

Title: Environmental Professional

Signature: 

Date: 11/11/2022

email: jim.raley@dvsn.com

Telephone: 575-689-7597

OCD Only

Received by: Jocelyn Harimon

Date: 11/14/2022

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: 12/30/2022

Printed Name: Brittany Hall

Title: Environmental Specialist



CLOSURE REQUEST REPORT

Site Location:

**Ross Draw Unit 14
Eddy County, New Mexico**

**Incident Numbers:
nAB1504757628, nAB1636431146, and nAB1902951984**

November 10, 2022
Ensolum Project No. 03A1987035

Prepared for:

**WPX Energy Permian, LLC
5315 Buena Vista Dr.
Carlsbad, NM 88220
Attention: Jim Raley**

Prepared by:

Benjamin J. Belill
Project Geologist

Ashley L. Ager, M.S., P.G.
Principal

TABLE OF CONTENTS

1.0 INTRODUCTION.....	1
1.1 Site Description	1
1.2 Release Backgrounds	1
1.3 Site Characterization	1-2
2.0 REMEDIATION ACTIONS	2
2.1 Previously Completed Site Activities	2-3
2.2 2022 Excavation Activities	3
2.3 Laboratory Analytical Results	4
3.0 CLOSURE REQUEST.....	4

LIST OF APPENDICES

Appendix A: Figure 1: Site Map

Figure 2: Delineation Soil Sample Locations

Figure 3A: 2020 Excavation Soil Sample Locations

Figure 3B: 2022 Excavation Soil Sample Locations

Appendix B: Well Record

Appendix C: Photographic Log

Appendix D: Table

Appendix E: Laboratory Analytical Reports & Chain-of-Custody Documentation

Appendix F: Email Correspondence

1.0 INTRODUCTION

1.1 Site Description

Ensolum, LLC (Ensolum) has prepared this Closure Request Report (CRR) to document site assessment, soil sampling activities, and corrective actions performed to date by WPX Energy Permian, LLC (WPX) at the Ross Draw Unit 14 (Site) in Unit L, Section 26, Township 26 South, Range 30 East, in Eddy County, New Mexico (**Figure 1 in Appendix A**). Based on all remedial actions and results of the soil sampling events completed for the three separate releases of crude oil and produced water at the Site, WPX respectfully requests no further action (NFA) for Incident Numbers nAB1504757628, nAB1636431146 and nAB1902951984.

On December 30, 2020, a Closure Request (CR), authored by WSP USA Inc. (WSP), was submitted to the New Mexico Oil Conservation Division (NMOCD) for the three subject releases; however, WPX did not receive a response from NMOCD. As a result, WPX reassessed field activities previously completed and determined additional remedial actions were warranted to address the NMOCD's current application of the reclamation requirement in an area off pad. As such, WPX conducted additional remediation activities at the Site. All previous remediation activities and soil sample analytical results for the three subject releases can be referenced in the original CR and other submitted deliverable documents uploaded to NMOCD and Centrestack portal.

1.2 Release Backgrounds

nAB1504757628

On February 11, 2015, tubing and casing valves were inadvertently closed, causing the wellbore to overpressure and blow out the packing. Approximately 12 barrels (bbls) of oil and produced water were released to the ground surface of the well pad. A vacuum truck was immediately dispatched to the Site and recovered all fluids. The incident was reported to the NMOCD on a Release Notification and Corrective Action Form (Form C-141) on February 12, 2015 and was subsequently assigned Incident Number nAB1504757628.

nAB1636431146

On December 11, 2016, pump failure caused a tank to overflow and release approximately 130 bbls of crude oil and produced water into an earthen berm containment. Misting occurred on the east side of the containment. All fluids were contained to the well pad. Approximately 95 bbls of crude oil and 10 bbls of produced water were recovered through the use of a vacuum truck. The incident was reported to NMOCD immediately via email and on a subsequent Form C-141 on December 16, 2016 and was subsequently assigned Incident Number nAB1636431146.

nAB1902951984

On October 30, 2018, a stuffing box failed and caused approximately 8 bbls of crude oil to be released to the area surrounding the well pad and adjacent pasture. Approximately 5 bbls of crude oil were recovered through the use of a vacuum truck. The incident was reported to NMOCD on a Form C-141 on November 12, 2018 and was subsequently assigned Incident Number nAB1902951984.

1.3 Site Characterization

The Site was characterized according to Table 1, Closure Criteria for Soils Impacted by a Release, from Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Results from the characterization desktop review are presented on page 3 of Form C-141s, Site Assessment/Characterization. Potential site receptors are identified on **Figure 1** in **Appendix A**.

Depth to groundwater at the Site is estimated to be greater than 100 feet below ground surface (bgs) based on a soil boring (MW-1) that was drilled by Talon LPE for WPX on December 9, 2020, located approximately 0.4 miles northwest of the Site. The soil boring location is labeled as RDU 55 on **Figure 1** in **Appendix A**. Using a truck mounted drill rig equipped with hollow stem augers, the soil boring was advanced to a total depth of 106.7 feet bgs. No fluids were observed within the soil boring after at least 72 hours. Following the observation period, the boring was properly plugged and abandoned. The well log is provided in **Appendix B**.

The closest continuously flowing or significant watercourse to the Site is an intermittent dry wash, located approximately 4,118 feet northwest 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, and wetland. The Site is greater than 1,000 feet from 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).

Based on the desktop review of nearby receptors and depth to groundwater determination at the Site, 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 Hydrocarbon (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- Total Petroleum Hydrocarbon (TPH): 2,500 mg/kg
- Chloride: 20,000 mg/kg

A reclamation requirement 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.

2.0 REMEDIATION ACTIONS

2.1 Previously Completed Site Activities

The release extents from all three events are depicted on **Figure 2** in **Appendix A**. From June to December of 2020, LT Environmental, Inc. (LTE) performed delineation and excavation activities at the Site. A total of 11 boreholes (BH01 through BH11) were advanced with the subsequent collection of two soil samples from each borehole; the samples were collected at the depth exhibiting the highest observed field screening and the terminus of the borehole. The location of the delineation soil samples are shown on **Figure 2** in **Appendix A**.

Laboratory analytical results from delineation soil samples collected from borehole BH10 from ground surface to 4 feet bgs indicated concentrations of TPH-GRO+TPH-DRO and total TPH exceeded the Site Closure Criteria. Laboratory analytical results from delineation soil sample BH05 at 0.5-foot to 1-foot bgs indicated concentrations of TPH exceeded the reclamation requirement.

Laboratory analytical results for all other delineation soil samples indicated all chemicals of concern (COCs) were below the applicable Closure Criteria and assisted with defining the lateral extent of impacts at the Site. Based on impacted soil in soil samples BH10 and BH05, additional remedial actions appeared warranted.

In December of 2020, WSP oversaw excavation of impacted soil as indicated by visual observations, field screening activities, and laboratory analytical results for the delineation soil samples. WSP collected 5-point composite samples from the floor and sidewalls of the excavation. Composite soil samples FS01 through FS30 were collected from the floor of the excavation at depths ranging from 0.5-foot to 4.5 feet bgs. Composite soil samples SW01 through SW10 were collected from the sidewalls of the excavation at depths ranging from the ground surface to 4.5 feet bgs.

The aerial extent of the excavation measured approximately 6,022 square feet of the Site pad and pasture areas, to total depths ranging from 0.5-foot to 4.5 feet bgs. Approximately 900 cubic yards of soil were transported to the R360 Halfway Facility in Orla, Texas, for disposal under WPX-approved manifests. The excavation was backfilled with locally sourced caliche and topsoil to match pre-existing Site conditions. The excavation confirmation soil samples submitted in December 2020 are depicted on **Figure 3A** included in **Appendix A**.

Since WPX did not receive feedback from NMOCD regarding the December 2020 CR, remedial actions were reviewed to identify any potential deficiencies that could exist. It was noted that confirmation floor sample FS07 collected at 1.5 feet to 4 feet bgs, exceeded the reclamation requirement in the top 4 feet for TPH. As a result, WPX tasked Ensolum to oversee excavation of residual waste-containing soil in the vicinity of FS07.

2.2 2022 Excavation Activities

On July 13, 2022, Ensolum was onsite to oversee additional excavation activities. Excavation activities were performed utilizing heavy equipment. Excavation activities were directed by referencing laboratory analytical results for FS07 and field screening for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach® chloride QuanTab® test strips.

The final excavation area associated with FS07 extended approximately 135 square feet to a total depth of approximately 4 feet bgs, eliminating the residual shallow impacts. Approximately 26 cubic yards of waste-containing soil were excavated and hauled to an R360 landfill facility located in Orla, Texas under WPX-approved manifests. The excavation was backfilled with locally sourced topsoil to match pre-existing Site conditions. The excavation and confirmation soil samples are depicted on **Figure 3B** included in **Appendix A**. A photographic log of the excavation is included as **Appendix C**.

Following the removal of impacted soil, Ensolum collected 5-point composite samples from the floor and sidewalls 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. Confirmation floor sample FS07 was collected at 4 feet bgs and confirmation sidewall samples SW11 and SW12 were collected from the sidewalls at depths ranging from the ground surface to 4 feet bgs.

The 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 procedures, to Eurofins LLC (Eurofins) in Carlsbad, New Mexico, for analysis of the COCs: BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH following EPA Method 8015M/D; and chloride following EPA Method 300.0.

2.3 Laboratory Analytical Results

Analytical results indicated all COCs were in compliance with the Site Closure Criteria and the reclamation requirement in soil samples collected within the top four feet of pasture area. As a result, no further remedial actions were required. The analytical results are summarized on **Table 1** in **Appendix D**. The executed chain-of-custody forms and laboratory analytical reports are provided in **Appendix E**. **Appendix F** provides correspondence email notification receipts associated with the subject releases.

3.0 CLOSURE REQUEST

The primary objectives of Ensolum's scope of services were to document remediation activities performed at the Site in accordance with the applicable NMOCD regulatory guidelines. Based on the results documented in this report, the following findings and conclusions regarding the three subject releases are presented:

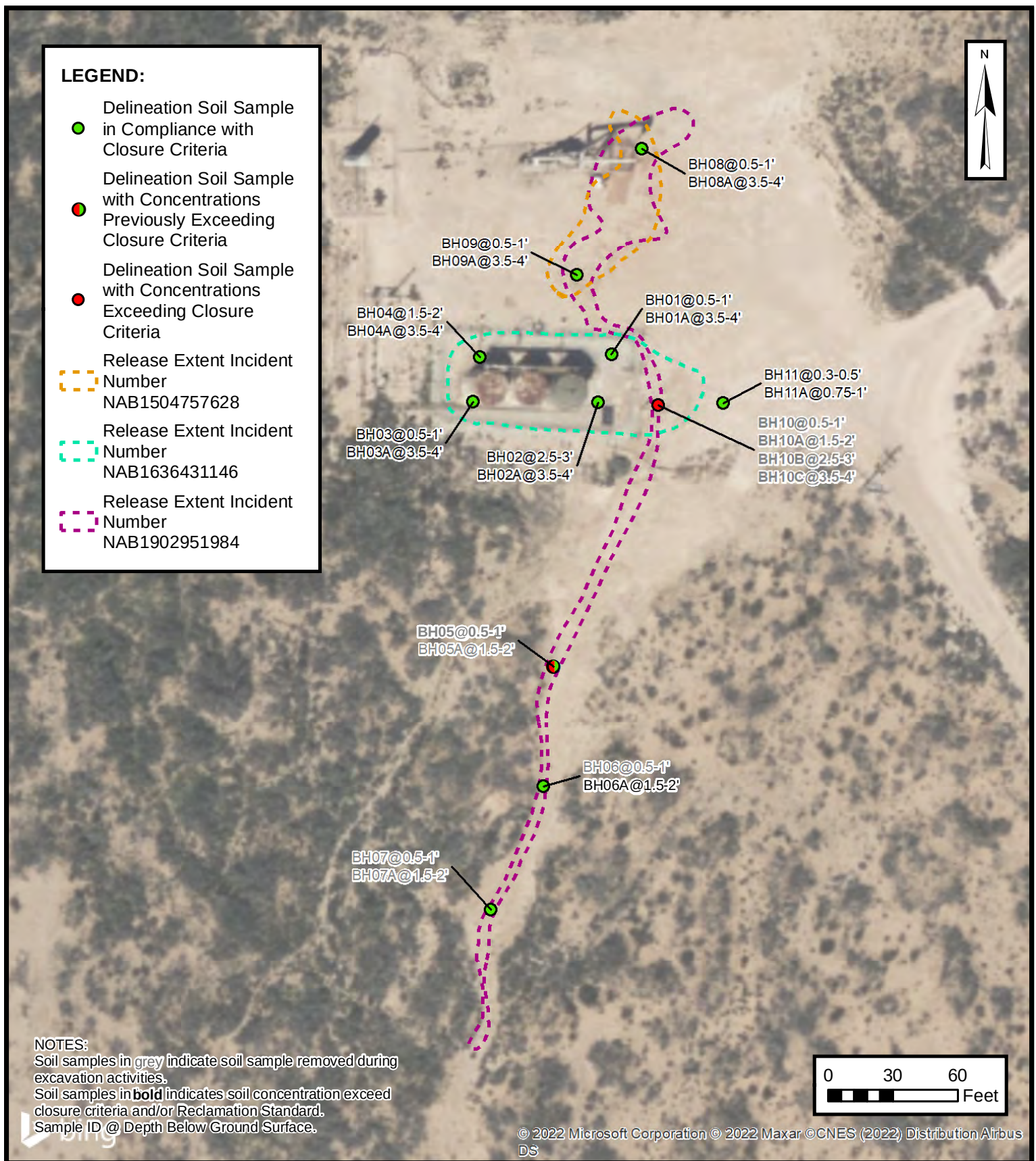
- Previously completed remedial actions from June to December 2020 indicated impacted soil was observed in soil from borehole BH10 ranging in depths from ground surface to approximately 4 feet bgs, and BH05 from 0.5 to 1-foot bgs;
- Delineation soil samples from boreholes BH01 through BH04, BH06 through BH09, and BH11 were in compliance with the Site Closure Criteria and assisted with the lateral definition of soil impacts;
- Upon further review by Ensolum, following the 2020 excavation activities completed by WSP, confirmation floor sample FS07 collected at 1.5 feet to 4 feet bgs, exceeded the reclamation requirement in the top 4 feet for TPH and additional excavation activities were warranted;
- Based on excavation confirmation soil analytical results over an aerial extent of 6,022 square feet including additional excavation of 135 square feet, an estimated total of **926 cubic yards** of impacted soil has been removed from the Site and hauled to a R360 landfill facility located in Orla, Texas under WPX-approved manifests;
- The excavation has been backfilled with locally sourced topsoil to match pre-existing Site conditions.

Based on the conclusions presented, WPX believes the remediation activities described above have met the requirements set forth in NMAC 19.15.29.13 to be protective of human health, the environment, and groundwater. As such, WPX respectfully requests closure of Incident Numbers nAB1504757628, nAB1636431146 and nAB1902951984.



APPENDIX A

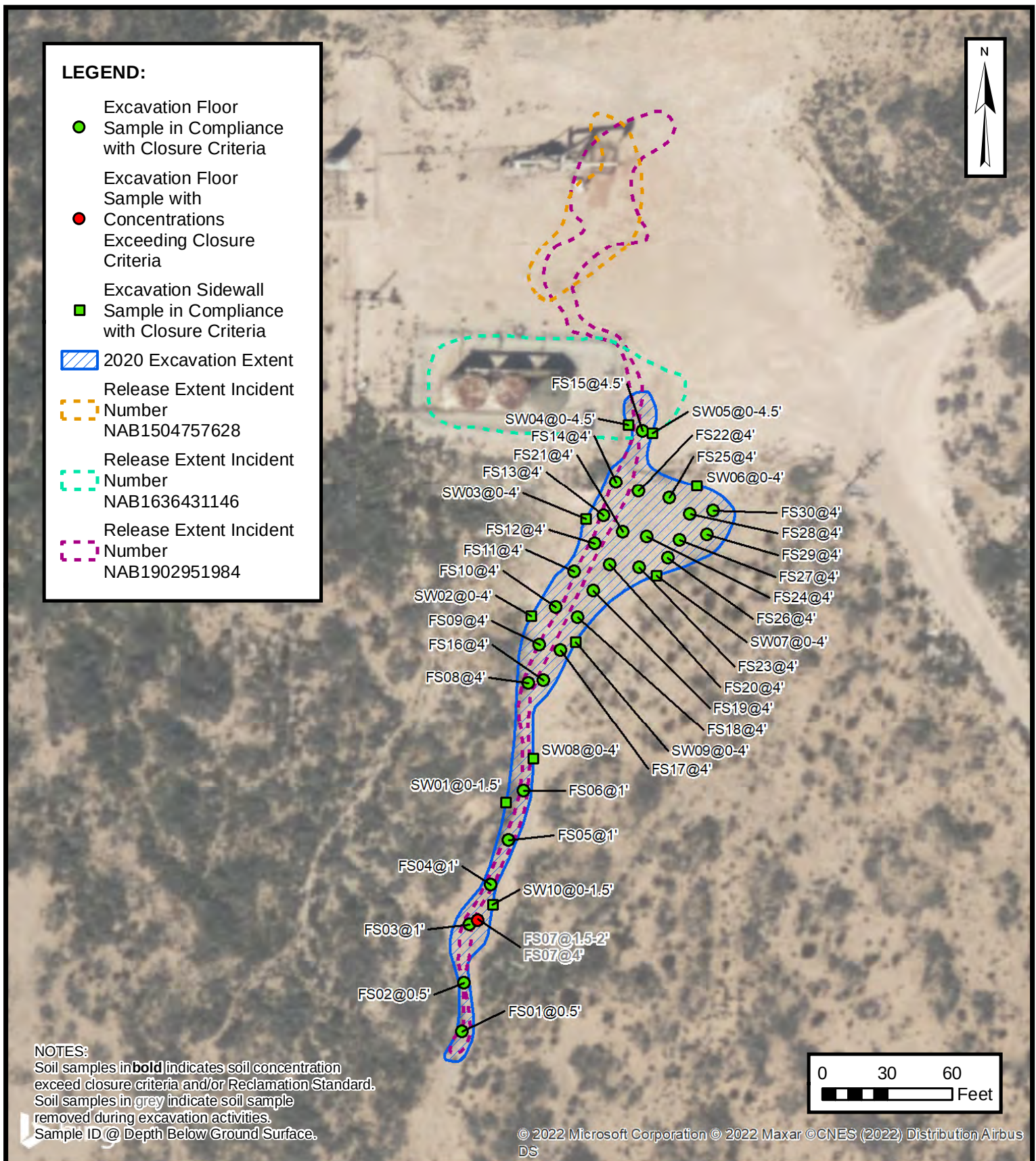
Figures



DELINEATION SOIL SAMPLE LOCATIONS

WPX ENERGY PERMIAN, LLC
 ROSS DRAW UNIT 14
 Unit L Sec 26 T26S R30E
 Eddy County, New Mexico

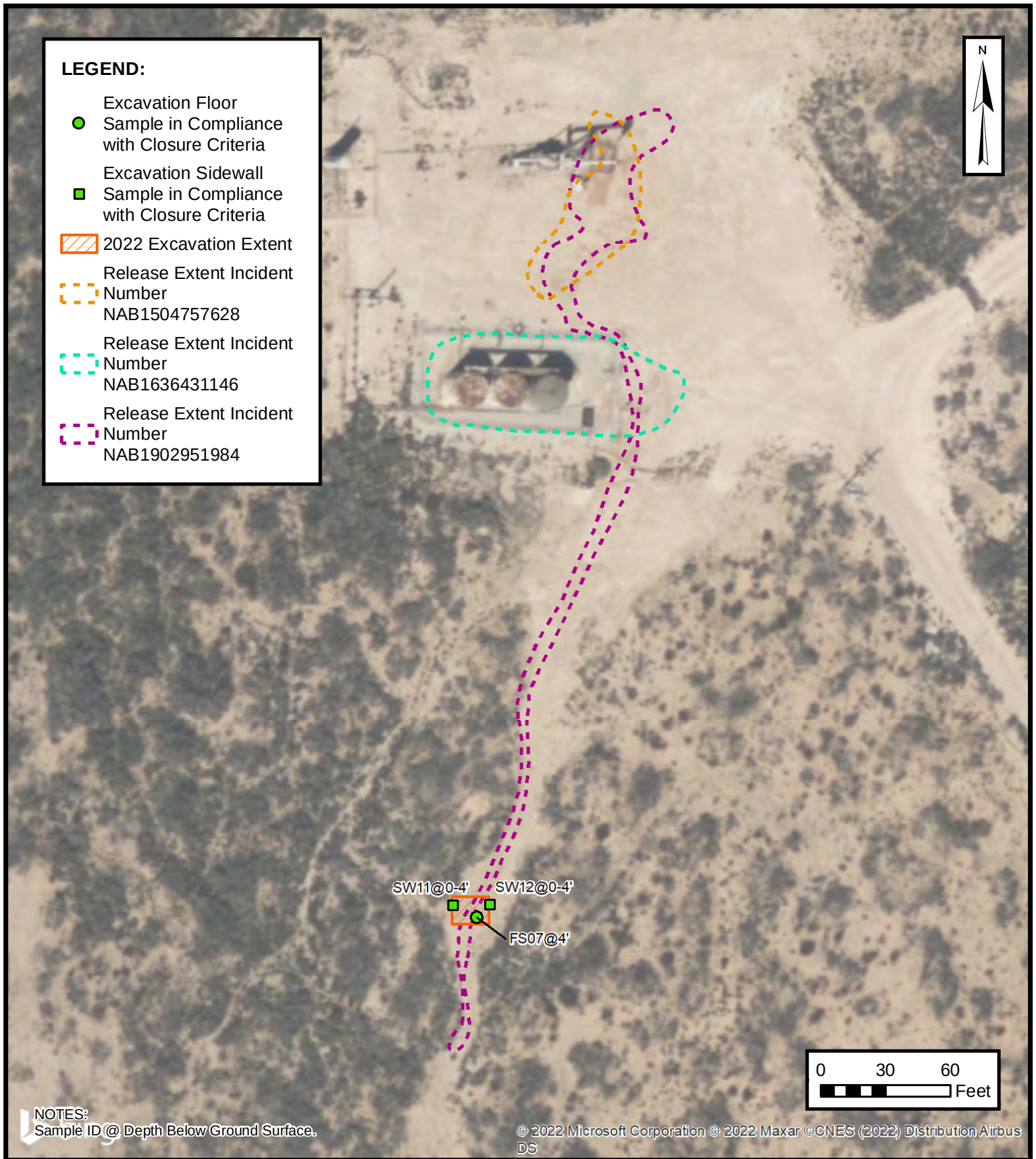
FIGURE
2



2020 EXCAVATION SOIL SAMPLE LOCATIONS

WPX ENERGY PERMIAN, LLC
 ROSS DRAW UNIT 14
 Unit L Sec 26 T26S R30E
 Eddy County, New Mexico

FIGURE
3A





APPENDIX B

Well Record

 HRL COMPLIANCE SOLUTIONS							BORING LOG/MONITORING WELL COMPLETION DIAGRAM					
							Boring/Well Number: MW-1			Location: Ross Draw Unit #55		
							Date: 12/9/2020			Client: WPX Energy		
Drilling Method: Air Rotary			Sampling Method: None				Logged By: J. Linn, PG			Drilled By: Talon LPE		
Gravel Pack Type: 10/20 Sand			Gravel Pack Depth Interval: 3 Bags				Seal Type: None		Seal Depth Interval: None		Latitude: 32.016165	
Casing Type: PVC		Diameter: 2-inch		Depth Interval: 0-101'7"		Boring Total Depth (ft. BGS): 106'7"			Longitude: -103.86346			
Screen Type: PVC		Slot: 0.010-inch		Diameter: 2-inch		Depth Interval: 101'7" - 106'7"		Well Total Depth (ft. BGS): 106'7"		Depth to Water (ft. BTOC): >106' 7"		DTW Date: 12/16/2020
Depth Interval (ft)	Recovery (ft)	Plasticity	Moisture	Odor	Staining	PID (ppm)	USCS	Sample ID	Lithology/Remarks		Well Completion	
0	NM	L	D	N	N	NM	SP	NS	Pale pink to buff colored poorly graded sand with minor silt			
5												
10												
15												
20	NM	L	D	N	N	NM	SW	NS	Pale tan orange well graded fine sand with minor medium and coarse sand			
25												
30												
35	NM	L	D	N	N	NM	SP	NS	Pale orange brown poorly graded fine sand with minor gravel			
40												
45												
50												
55												
60												
65												
70												
75	NM	L	D	N	N	NM	SP	NS	Grey poorly graded fine sand with minor gravel			
80												
85												
90												
95	NM	L	D	N	N	NM	SP	NS	Darker grey poorly graded fine sand with minor silt and minor medium sand			
100												
106'7"	NM	M	D	N	N	NM	SC	NS	Dark grey fine sand with moderate silt and clay - TD 106'7"			



APPENDIX C

Photographic Log

**Photographic Log**

WPX Energy Permian, LLC

Ross Draw Unit 14

Incident Numbers: nAB1636431146, nAB1902951984,
and nAB1504757628

Photograph 1

Date: 7/13/2022

Description: Backfilled excavation area in the vicinity of
confirmation sample FS07

Photograph 2

Date: 7/13/2022

Description: Excavation activities facing north



Photograph 3

Date: 7/13/2022

Description: Final excavation in vicinity of confirmation
sample FS07, facing southeast

Photograph 4

Date: 7/13/2022

Description: Final excavation in the vicinity of
confirmation sample FS07, facing north



APPENDIX D

Table



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 WPX Energy Permian, LLC - Ross Draw Unit 14
 Eddy County, New Mexico

Ensolum Project No. 03A1987035

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total 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
Delineation Soil Sample Analytical Results										
BH01	06/29/2020	0.5 - 1	<0.00199	<0.00199	<50.2	<50.2	<50.2	<50.2	<50.2	13.5
BH01A	06/29/2020	3.5 - 4	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	12.3
BH02	06/29/2020	2.5 - 3	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	888
BH02A	06/29/2020	3.5 - 4	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	1,330
BH03	06/29/2020	0.5 - 1	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	212
BH03A	06/29/2020	3.5 - 4	<0.00198	<0.00198	<50.1	<50.1	<50.1	<50.1	<50.1	12.5
BH04	06/29/2020	1.5 - 2	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	11.7
BH04A	06/29/2020	3.5 - 4	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	10.9
BH05	06/29/2020	0.5 - 1	<0.00200	<0.00200	<50.2	293	52.4	345	345*	31.1*
BH05A	06/29/2020	1.5 - 2	<0.00202	<0.00202	<50.1	<50.1	<50.1	<50.1	<50.1	87.3*
BH06	06/29/2020	0.5 - 1	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	14.2*
BH06A	06/29/2020	1.5 - 2	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	12.8*
BH07	06/29/2020	0.5 - 1	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	<9.98*
BH07A	06/29/2020	1.5 - 2	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	<9.98*
BH08	06/29/2020	0.5 - 1	<0.00202	<0.00202	<50.1	<50.1	<50.1	<50.1	<50.1	430
BH08A	06/29/2020	3.5 - 4	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	531
BH09	06/29/2020	0.5 - 1	<0.00198	<0.00198	<50.3	<50.3	<50.3	<50.3	<50.3	18.4
BH09A	06/29/2020	3.5 - 4	<0.00201	<0.00201	<50.1	<50.1	<50.1	<50.1	<50.1	46.3
BH10	06/29/2020	0.5 - 1	<0.00200	<0.00200	<251	3,120	1,150	3,120	4,270	1,010
BH10A	06/29/2020	1.5 - 2	<0.00200	<0.00200	<251	3,800	1,560	3,800	5,360	5,010
BH10B	06/29/2020	2.5 - 3	<0.00201	<0.00201	<251	4,680	1,970	4,680	6,650	4,190
BH10C	06/29/2020	3.5 - 4	<0.00200	<0.00200	<251	4,870	2,120	4,870	6,990	5,620
BH11	12/09/2020	0.3 - 0.5	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	101
BH11A	12/09/2020	0.75 - 1	<0.00199	<0.00199	<50.1	<50.1	<50.1	<50.1	<50.1	99.3
Excavation Floor Soil Sample Analytical Results										
FS01	12/09/2020	0.5	<0.00201	<0.002010	<50.0	<50.0	<50.0	<50.0	<50.0	<9.92*
FS02	12/09/2020	0.5	<0.00201	<0.002010	<49.9	<49.9	<49.9	<49.9	<49.9	11.3*
FS03	12/07/2020	1	<0.00198	<0.001980	<50.1	<50.1	<50.1	<50.1	<50.1	23.7*
FS04	12/07/2020	1	<0.00200	<0.00200	<50.1	54.2	<50.1	54.2	54.2	87.7*
FS05	12/07/2020	1	<0.00198	<0.00198	<50.0	<50.0	<50.0	<50.0	<50.0	246*



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 WPX Energy Permian, LLC - Ross Draw Unit 14
 Eddy County, New Mexico

Ensolum Project No. 03A1987035

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total 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
FS06	12/07/2020	1	<0.00200	<0.00200	<50.3	98.3	<50.3	98.3	98.3	42.2*
FS07	12/08/2020	1.5 - 4	<0.0000198	<0.0000198	<50.1	272	65.0	272	337*	442*
FS07	07/13/2022	4	<0.00202	<0.00404	<50.0	<50.0	<50.0	<50.0	<50.0	1,130
FS08	12/08/2020	4	<0.00199	<0.00199	<50.3	<50.3	<50.3	<50.3	<50.3	1,070
FS09	12/08/2020	4	<0.00200	<0.00200	<49.9	57.2	<49.9	57.2	57.2	932
FS10	12/08/2020	4	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	2,170
FS11	12/08/2020	4	<0.00202	<0.00202	<50.3	<50.3	<50.3	<50.3	<50.3	4,340
FS12	12/08/2020	4	<0.00199	<0.00199	<49.8	<49.8	<49.8	<49.8	<49.8	1,710
FS13	12/08/2020	4	<0.00200	<0.00200	<49.8	<49.8	<49.8	<49.8	<49.8	1,880
FS14	12/08/2020	4	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	1,160
FS15	12/08/2020	4.5	<0.00201	<0.00201	<49.9	<49.9	<49.9	<49.9	<49.9	1,220
FS16	12/09/2020	4	<0.00198	<0.00198	<49.8	81.1	<49.8	81.1	81.1	1,200
FS17	12/09/2020	4	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	1,090
FS18	12/09/2020	4	<0.00199	<0.00199	<49.9	<49.9	<49.9	<49.9	<49.9	1,510
FS19	12/09/2020	4	<0.00198	<0.00198	<50.2	<50.2	<50.2	<50.2	<50.2	3,860
FS20	12/09/2020	4	<0.00200	<0.00200	<50.2	<50.2	<50.2	<50.2	<50.2	2,700
FS21	12/09/2020	4	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	3,260
FS22	12/09/2020	4	<0.00202	<0.00202	<50.1	<50.1	<50.1	<50.1	<50.1	2,420
FS23	12/09/2020	4	<0.00202	<0.00202	<50.0	<50.0	<50.0	<50.0	<50.0	3,910
FS24	12/09/2020	4	<0.00200	<0.00200	<50.1	<50.1	<50.1	<50.1	<50.1	4,460
FS25	12/09/2020	4	<0.00198	<0.00198	<50.3	<50.3	<50.3	<50.3	<50.3	1,740
FS26	12/09/2020	4	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	5,280
FS27	12/09/2020	4	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	3,190
FS28	12/09/2020	4	<0.00200	<0.00200	<49.9	<49.9	<49.9	<49.9	<49.9	3,640
FS29	12/09/2020	4	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	3,050
FS30	12/09/2020	4	<0.00201	<0.00201	<50.0	<50.0	<50.0	<50.0	<50.0	4,750
Excavation Sidewall Soil Sample Analytical Results										
SW01	12/09/2020	0 - 1.5	<0.00198	<0.001980	<50.2	<50.2	<50.2	<50.2	<50.2	141*
SW02	12/09/2020	0 - 4	<0.00199	<0.001990	<50.2	<50.2	<50.2	<50.2	<50.2	86.8*
SW03	12/09/2020	0 - 4	<0.00200	<0.002000	<49.8	<49.8	<49.8	<49.8	<49.8	279*
SW04	12/09/2020	0 - 4.5	<0.00198	<0.001980	<49.8	508	<49.8	508	508	897



TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS
 WPX Energy Permian, LLC - Ross Draw Unit 14
 Eddy County, New Mexico

Ensolum Project No. 03A1987035

Sample I.D.	Sample Date	Sample Depth (feet bgs)	Benzene (mg/kg)	Total BTEX (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)	GRO+DRO (mg/kg)	Total TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
SW05	12/09/2020	0 - 4.5	<0.00200	<0.002000	<49.8	297	<49.8	297	297	2,080
SW06	12/09/2020	0 - 4	<0.00202	<0.002020	<49.9	<49.9	<49.9	<49.9	<49.9	329*
SW07	12/09/2020	0 - 4	<0.00200	<0.00200	<50.3	<50.3	<50.3	<50.3	<50.3	324*
SW08	12/09/2020	0 - 4	<0.00202	<0.00202	<49.8	<49.8	<49.8	<49.8	<49.8	32.1*
SW09	12/09/2020	0 - 4	<0.00200	<0.00200	<50.0	<50.0	<50.0	<50.0	<50.0	201*
SW10	12/09/2020	0 - 1.5	<0.00199	<0.00199	<50.0	<50.0	<50.0	<50.0	<50.0	262*
SW11	07/13/2022	0 - 4	<0.00200	<0.00399	<49.9	63.3	<49.9	63.3	63.3	52.4*
SW12	07/13/2022	0 - 4	<0.00202	<0.00404	<50.0	59.2	<50.0	59.2	59.2	46.8*

Notes:

bgs: below ground surface

mg/kg: milligrams per kilogram

NMOCD: New Mexico Oil Conservation Division

BTEX: Benzene, Toluene, Ethylbenzene, and Xylenes

GRO: Gasoline Range Organics

DRO: Diesel Range Organics

ORO: Oil Range Organics

TPH: Total Petroleum Hydrocarbon

Concentrations in **bold** exceed the NMOCD Table 1 Closure Criteria and/or Reclamation Standard for Soils Impacted by a Release

* indicates soil in the top 4 feet of pasture to be reclaimed



APPENDIX E

Laboratory Analytical Reports & Chain-of-Custody Documentation



Xenco

Certificate of Analysis Summary 666055

LT Environmental, Inc., Arvada, CO

Project Name: RDU 14

Project Id: 034820026
Contact: Joseph Hernandez
Project Location: Rural Eddy County

Date Received in Lab: Wed 07.01.2020 11:11
Report Date: 07.06.2020 08:40
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	666055-001	666055-002	666055-003	666055-004	666055-005	666055-006
	<i>Field Id:</i>	BH01	BH01A	BH02	BH02A	BH03	BH03A
	<i>Depth:</i>	0.5-1 ft	3.5-4 ft	2.5-3 ft	3.5-4 ft	0.5-1 ft	3.5-4 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	06.29.2020 10:35	06.29.2020 10:40	06.29.2020 09:59	06.29.2020 10:00	06.29.2020 08:28	06.29.2020 08:35
BTEX by EPA 8021B	<i>Extracted:</i>	07.01.2020 12:57	07.01.2020 12:57	07.01.2020 12:57	07.01.2020 12:57	07.01.2020 12:57	07.01.2020 12:57
	<i>Analyzed:</i>	07.01.2020 16:26	07.01.2020 16:47	07.01.2020 17:09	07.01.2020 17:30	07.01.2020 17:51	07.01.2020 18:13
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
Toluene		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
Ethylbenzene		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
m,p-Xylenes		<0.00398 0.00398	<0.00398 0.00398	<0.00398 0.00398	<0.00399 0.00399	<0.00401 0.00401	<0.00396 0.00396
o-Xylene		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
Total Xylenes		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
Total BTEX		<0.00199 0.00199	<0.00199 0.00199	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00198 0.00198
Inorganic Anions by EPA 300	<i>Extracted:</i>	07.01.2020 14:07	07.01.2020 14:07	07.01.2020 14:07	07.01.2020 14:07	07.01.2020 14:07	07.01.2020 14:07
	<i>Analyzed:</i>	07.01.2020 14:55	07.01.2020 15:13	07.01.2020 15:19	07.01.2020 15:25	07.01.2020 15:31	07.01.2020 15:49
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		13.5 10.0	12.3 9.94	888 9.92	1330 9.94	212 9.94	12.5 9.98
TPH by SW8015 Mod	<i>Extracted:</i>	07.01.2020 13:00	07.01.2020 13:00	07.01.2020 13:00	07.01.2020 13:00	07.01.2020 13:00	07.01.2020 13:00
	<i>Analyzed:</i>	07.01.2020 13:13	07.01.2020 13:13	07.01.2020 14:14	07.01.2020 14:34	07.01.2020 14:55	07.01.2020 15:15
	<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)		<50.2 50.2	<49.8 49.8	<49.8 49.8	<50.1 50.1	<49.9 49.9	<50.1 50.1
Diesel Range Organics (DRO)		<50.2 50.2	<49.8 49.8	<49.8 49.8	<50.1 50.1	<49.9 49.9	<50.1 50.1
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<49.8 49.8	<49.8 49.8	<50.1 50.1	<49.9 49.9	<50.1 50.1
Total TPH		<50.2 50.2	<49.8 49.8	<49.8 49.8	<50.1 50.1	<49.9 49.9	<50.1 50.1

BRL - Below Reporting Limit

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



Xenco

Certificate of Analysis Summary 666055

LT Environmental, Inc., Arvada, CO

Project Name: RDU 14

Project Id: 034820026
Contact: Joseph Hernandez
Project Location: Rural Eddy County

Date Received in Lab: Wed 07.01.2020 11:11
Report Date: 07.06.2020 08:40
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	666055-007	666055-008	666055-009	666055-010	666055-011	666055-012
	<i>Field Id:</i>	BH04	BH04A	BH06	BH06A	BH07	BH07A
	<i>Depth:</i>	1.5-2 ft	3.5-4 ft	0.5-1 ft	1.5-2 ft	0.5-1 ft	1.5-2 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	06.29.2020 09:16	06.29.2020 09:20	06.29.2020 11:34	06.29.2020 11:37	06.29.2020 12:27	06.29.2020 13:31
BTEX by EPA 8021B	<i>Extracted:</i>	07.01.2020 12:57	07.01.2020 12:57	07.01.2020 12:57	07.01.2020 12:57	07.01.2020 12:57	07.01.2020 12:57
	<i>Analyzed:</i>	07.01.2020 18:34	07.01.2020 18:56	07.01.2020 19:17	07.01.2020 19:39	07.01.2020 20:55	07.01.2020 21:16
	<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	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
m,p-Xylenes		<0.00401 0.00401	<0.00401 0.00401	<0.00399 0.00399	<0.00400 0.00400	<0.00398 0.00398	<0.00398 0.00398
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00199 0.00199	<0.00199 0.00199
Inorganic Anions by EPA 300	<i>Extracted:</i>	07.01.2020 14:07	07.01.2020 14:07	07.01.2020 14:07	07.01.2020 14:07	07.01.2020 14:07	07.01.2020 14:07
	<i>Analyzed:</i>	07.01.2020 15:55	07.01.2020 16:01	07.01.2020 16:07	07.01.2020 16:13	07.01.2020 16:19	07.01.2020 16:37
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		11.7 9.98	10.9 10.0	14.2 9.94	12.8 9.98	<9.98 9.98	<9.98 9.98
TPH by SW8015 Mod	<i>Extracted:</i>	07.01.2020 13:00	07.01.2020 13:00	07.01.2020 13:00	07.01.2020 13:00	07.01.2020 13:00	07.01.2020 13:00
	<i>Analyzed:</i>	07.01.2020 15:36	07.01.2020 15:56	07.01.2020 16:17	07.01.2020 14:14	07.01.2020 14:34	07.01.2020 14:55
	<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)		<50.1 50.1	<49.9 49.9	<50.2 50.2	<49.8 49.8	<50.0 50.0	<49.8 49.8
Diesel Range Organics (DRO)		<50.1 50.1	<49.9 49.9	<50.2 50.2	<49.8 49.8	<50.0 50.0	<49.8 49.8
Motor Oil Range Hydrocarbons (MRO)		<50.1 50.1	<49.9 49.9	<50.2 50.2	<49.8 49.8	<50.0 50.0	<49.8 49.8
Total TPH		<50.1 50.1	<49.9 49.9	<50.2 50.2	<49.8 49.8	<50.0 50.0	<49.8 49.8

BRL - Below Reporting Limit

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



Xenco

Certificate of Analysis Summary 666055

LT Environmental, Inc., Arvada, CO

Project Name: RDU 14

Project Id: 034820026
Contact: Joseph Hernandez
Project Location: Rural Eddy County

Date Received in Lab: Wed 07.01.2020 11:11
Report Date: 07.06.2020 08:40
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	666055-013	666055-014	666055-015	666055-016		
	Field Id:	BH08	BH08A	BH09	BH09A		
	Depth:	0.5-1 ft	3.5-4 ft	0.5-1 ft	3.5-4 ft		
	Matrix:	SOIL	SOIL	SOIL	SOIL		
	Sampled:	06.29.2020 12:30	06.29.2020 12:40	06.29.2020 13:12	06.29.2020 13:20		
BTEX by EPA 8021B	Extracted:	07.01.2020 12:57	07.01.2020 12:57	07.01.2020 12:57	07.01.2020 12:57		
	Analyzed:	07.01.2020 21:38	07.01.2020 21:59	07.01.2020 22:20	07.01.2020 22:42		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201		
Toluene		<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201		
Ethylbenzene		<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201		
m,p-Xylenes		<0.00403 0.00403	<0.00401 0.00401	<0.00396 0.00396	<0.00402 0.00402		
o-Xylene		<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201		
Total Xylenes		<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201		
Total BTEX		<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198	<0.00201 0.00201		
Inorganic Anions by EPA 300	Extracted:	07.01.2020 14:07	07.01.2020 14:07	07.01.2020 14:07	07.01.2020 14:07		
	Analyzed:	07.01.2020 16:42	07.01.2020 17:00	07.01.2020 17:06	07.01.2020 17:12		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		430 9.98	531 9.92	18.4 10.0	46.3 9.98		
TPH by SW8015 Mod	Extracted:	07.01.2020 13:00	07.01.2020 13:00	07.01.2020 13:00	07.01.2020 13:00		
	Analyzed:	07.01.2020 15:15	07.01.2020 15:36	07.01.2020 15:56	07.01.2020 16:17		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<50.1 50.1	<49.9 49.9	<50.3 50.3	<50.1 50.1		
Diesel Range Organics (DRO)		<50.1 50.1	<49.9 49.9	<50.3 50.3	<50.1 50.1		
Motor Oil Range Hydrocarbons (MRO)		<50.1 50.1	<49.9 49.9	<50.3 50.3	<50.1 50.1		
Total TPH		<50.1 50.1	<49.9 49.9	<50.3 50.3	<50.1 50.1		

BRL - Below Reporting Limit

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



Xenco

Analytical Report 666055

for

LT Environmental, Inc.

Project Manager: Joseph Hernandez

RDU 14

034820026

07.06.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-36), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-25), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-17)
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 (T104704534-20-7)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



Xenco

07.06.2020

Project Manager: **Joseph Hernandez****LT Environmental, Inc.**

4600 W. 60th Avenue

Arvada, CO 80003

Reference: Eurofins Xenco, LLC Report No(s): **666055****RDU 14**

Project Address: Rural Eddy County

Joseph Hernandez:

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) 666055. 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. 666055 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 666055****LT Environmental, Inc., Arvada, CO**

RDU 14

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH01	S	06.29.2020 10:35	0.5 - 1 ft	666055-001
BH01A	S	06.29.2020 10:40	3.5 - 4 ft	666055-002
BH02	S	06.29.2020 09:59	2.5 - 3 ft	666055-003
BH02A	S	06.29.2020 10:00	3.5 - 4 ft	666055-004
BH03	S	06.29.2020 08:28	0.5 - 1 ft	666055-005
BH03A	S	06.29.2020 08:35	3.5 - 4 ft	666055-006
BH04	S	06.29.2020 09:16	1.5 - 2 ft	666055-007
BH04A	S	06.29.2020 09:20	3.5 - 4 ft	666055-008
BH06	S	06.29.2020 11:34	0.5 - 1 ft	666055-009
BH06A	S	06.29.2020 11:37	1.5 - 2 ft	666055-010
BH07	S	06.29.2020 12:27	0.5 - 1 ft	666055-011
BH07A	S	06.29.2020 13:31	1.5 - 2 ft	666055-012
BH08	S	06.29.2020 12:30	0.5 - 1 ft	666055-013
BH08A	S	06.29.2020 12:40	3.5 - 4 ft	666055-014
BH09	S	06.29.2020 13:12	0.5 - 1 ft	666055-015
BH09A	S	06.29.2020 13:20	3.5 - 4 ft	666055-016



Xenco

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: RDU 14

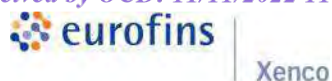
Project ID: 034820026
Work Order Number(s): 666055

Report Date: 07.06.2020
Date Received: 07.01.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

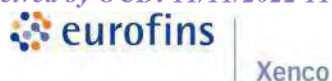
Sample Id: **BH01** Matrix: Soil Date Received: 07.01.2020 11:11
 Lab Sample Id: 666055-001 Date Collected: 06.29.2020 10:35 Sample Depth: 0.5 - 1 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 07.01.2020 14:07 Basis: Wet Weight
 Seq Number: 3130575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	13.5	10.0	mg/kg	07.01.2020 14:55		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 07.01.2020 13:00 Basis: Wet Weight
 Seq Number: 3130574

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	07.01.2020 13:13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	07.01.2020 13:13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	07.01.2020 13:13	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	07.01.2020 13:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	124	%	70-135	07.01.2020 13:13	
o-Terphenyl	84-15-1	111	%	70-135	07.01.2020 13:13	



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH01**
 Lab Sample Id: 666055-001

Matrix: Soil
 Date Collected: 06.29.2020 10:35

Date Received: 07.01.2020 11:11
 Sample Depth: 0.5 - 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

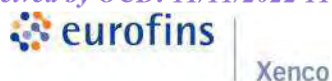
Analyst: MAB

Date Prep: 07.01.2020 12:57

Basis: Wet Weight

Seq Number: 3130572

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.01.2020 16:26	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.01.2020 16:26	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.01.2020 16:26	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.01.2020 16:26	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.01.2020 16:26	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.01.2020 16:26	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.01.2020 16:26	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	07.01.2020 16:26		
1,4-Difluorobenzene	540-36-3	99	%	70-130	07.01.2020 16:26		



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH01A**
 Lab Sample Id: 666055-002

Matrix: Soil
 Date Collected: 06.29.2020 10:40

Date Received: 07.01.2020 11:11
 Sample Depth: 3.5 - 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3130575

Prep Method: E300P

% Moisture:

Date Prep: 07.01.2020 14:07

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.3	9.94	mg/kg	07.01.2020 15:13		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3130577

Prep Method: SW8015P

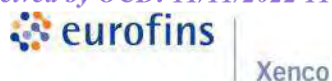
% Moisture:

Date Prep: 07.01.2020 13:00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	07.01.2020 13:13	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	07.01.2020 13:13	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	07.01.2020 13:13	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	07.01.2020 13:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	07.01.2020 13:13	
o-Terphenyl	84-15-1	78	%	70-135	07.01.2020 13:13	



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH01A**
 Lab Sample Id: 666055-002

Matrix: Soil
 Date Collected: 06.29.2020 10:40

Date Received: 07.01.2020 11:11
 Sample Depth: 3.5 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

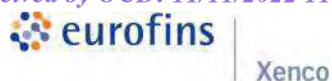
Analyst: MAB

Date Prep: 07.01.2020 12:57

Basis: Wet Weight

Seq Number: 3130572

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.01.2020 16:47	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.01.2020 16:47	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.01.2020 16:47	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.01.2020 16:47	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.01.2020 16:47	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.01.2020 16:47	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.01.2020 16:47	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	07.01.2020 16:47		
4-Bromofluorobenzene	460-00-4	102	%	70-130	07.01.2020 16:47		



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

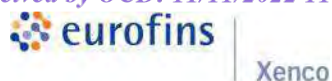
Sample Id: **BH02** Matrix: Soil Date Received: 07.01.2020 11:11
 Lab Sample Id: 666055-003 Date Collected: 06.29.2020 09:59 Sample Depth: 2.5 - 3 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 07.01.2020 14:07 Basis: Wet Weight
 Seq Number: 3130575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	888	9.92	mg/kg	07.01.2020 15:19		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 07.01.2020 13:00 Basis: Wet Weight
 Seq Number: 3130574

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	07.01.2020 14:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	07.01.2020 14:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	07.01.2020 14:14	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	07.01.2020 14:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	109	%	70-135	07.01.2020 14:14	
o-Terphenyl	84-15-1	97	%	70-135	07.01.2020 14:14	



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH02**
 Lab Sample Id: 666055-003

Matrix: Soil
 Date Collected: 06.29.2020 09:59

Date Received: 07.01.2020 11:11
 Sample Depth: 2.5 - 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

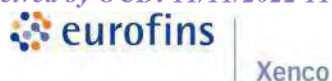
Analyst: MAB

Date Prep: 07.01.2020 12:57

Basis: Wet Weight

Seq Number: 3130572

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.01.2020 17:09	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.01.2020 17:09	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.01.2020 17:09	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.01.2020 17:09	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.01.2020 17:09	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.01.2020 17:09	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.01.2020 17:09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	106	%	70-130	07.01.2020 17:09		
1,4-Difluorobenzene	540-36-3	101	%	70-130	07.01.2020 17:09		



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

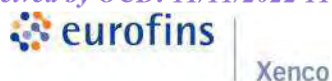
Sample Id: **BH02A** Matrix: Soil Date Received: 07.01.2020 11:11
 Lab Sample Id: 666055-004 Date Collected: 06.29.2020 10:00 Sample Depth: 3.5 - 4 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 07.01.2020 14:07 Basis: Wet Weight
 Seq Number: 3130575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1330	9.94	mg/kg	07.01.2020 15:25		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 07.01.2020 13:00 Basis: Wet Weight
 Seq Number: 3130574

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	07.01.2020 14:34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	07.01.2020 14:34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	07.01.2020 14:34	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	07.01.2020 14:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	07.01.2020 14:34	
o-Terphenyl	84-15-1	96	%	70-135	07.01.2020 14:34	



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH02A**
 Lab Sample Id: 666055-004

Matrix: Soil
 Date Collected: 06.29.2020 10:00

Date Received: 07.01.2020 11:11
 Sample Depth: 3.5 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

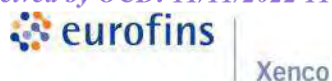
Analyst: MAB

Date Prep: 07.01.2020 12:57

Basis: Wet Weight

Seq Number: 3130572

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.01.2020 17:30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.01.2020 17:30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.01.2020 17:30	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.01.2020 17:30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.01.2020 17:30	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.01.2020 17:30	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.01.2020 17:30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	102	%	70-130	07.01.2020 17:30		
1,4-Difluorobenzene	540-36-3	100	%	70-130	07.01.2020 17:30		



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

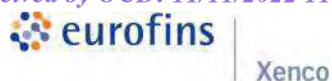
Sample Id: **BH03** Matrix: Soil Date Received: 07.01.2020 11:11
 Lab Sample Id: 666055-005 Date Collected: 06.29.2020 08:28 Sample Depth: 0.5 - 1 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 07.01.2020 14:07 Basis: Wet Weight
 Seq Number: 3130575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	212	9.94	mg/kg	07.01.2020 15:31		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 07.01.2020 13:00 Basis: Wet Weight
 Seq Number: 3130574

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	07.01.2020 14:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	07.01.2020 14:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	07.01.2020 14:55	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	07.01.2020 14:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	07.01.2020 14:55	
o-Terphenyl	84-15-1	97	%	70-135	07.01.2020 14:55	



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH03**
 Lab Sample Id: 666055-005

Matrix: Soil
 Date Collected: 06.29.2020 08:28

Date Received: 07.01.2020 11:11
 Sample Depth: 0.5 - 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 07.01.2020 12:57

Basis: Wet Weight

Seq Number: 3130572

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.01.2020 17:51	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.01.2020 17:51	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.01.2020 17:51	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.01.2020 17:51	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.01.2020 17:51	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.01.2020 17:51	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.01.2020 17:51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	07.01.2020 17:51		
4-Bromofluorobenzene	460-00-4	103	%	70-130	07.01.2020 17:51		



Xenco

Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH03A**
 Lab Sample Id: 666055-006

Matrix: Soil
 Date Collected: 06.29.2020 08:35

Date Received: 07.01.2020 11:11
 Sample Depth: 3.5 - 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 07.01.2020 14:07

Basis: Wet Weight

Seq Number: 3130575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.5	9.98	mg/kg	07.01.2020 15:49		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: DTH

% Moisture:

Analyst: DTH

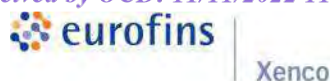
Date Prep: 07.01.2020 13:00

Basis: Wet Weight

Seq Number: 3130574

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	07.01.2020 15:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	07.01.2020 15:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	07.01.2020 15:15	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	07.01.2020 15:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	107	%	70-135	07.01.2020 15:15	
o-Terphenyl	84-15-1	96	%	70-135	07.01.2020 15:15	



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH03A**
 Lab Sample Id: 666055-006

Matrix: Soil
 Date Collected: 06.29.2020 08:35

Date Received: 07.01.2020 11:11
 Sample Depth: 3.5 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

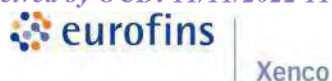
Analyst: MAB

Date Prep: 07.01.2020 12:57

Basis: Wet Weight

Seq Number: 3130572

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.01.2020 18:13	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.01.2020 18:13	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.01.2020 18:13	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	07.01.2020 18:13	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.01.2020 18:13	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.01.2020 18:13	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.01.2020 18:13	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	105	%	70-130	07.01.2020 18:13		
1,4-Difluorobenzene	540-36-3	101	%	70-130	07.01.2020 18:13		



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH04** Matrix: Soil Date Received: 07.01.2020 11:11
 Lab Sample Id: 666055-007 Date Collected: 06.29.2020 09:16 Sample Depth: 1.5 - 2 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 07.01.2020 14:07 Basis: Wet Weight
 Seq Number: 3130575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.7	9.98	mg/kg	07.01.2020 15:55		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 07.01.2020 13:00 Basis: Wet Weight
 Seq Number: 3130574

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	07.01.2020 15:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	07.01.2020 15:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	07.01.2020 15:36	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	07.01.2020 15:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	07.01.2020 15:36	
o-Terphenyl	84-15-1	96	%	70-135	07.01.2020 15:36	



Xenco

Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH04**
 Lab Sample Id: 666055-007

Matrix: Soil
 Date Collected: 06.29.2020 09:16

Date Received: 07.01.2020 11:11
 Sample Depth: 1.5 - 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

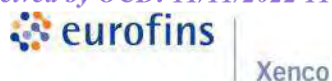
Analyst: MAB

Date Prep: 07.01.2020 12:57

Basis: Wet Weight

Seq Number: 3130572

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.01.2020 18:34	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.01.2020 18:34	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.01.2020 18:34	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.01.2020 18:34	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.01.2020 18:34	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.01.2020 18:34	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.01.2020 18:34	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	07.01.2020 18:34		
4-Bromofluorobenzene	460-00-4	100	%	70-130	07.01.2020 18:34		



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

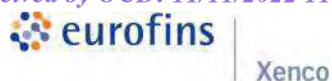
Sample Id: **BH04A** Matrix: Soil Date Received: 07.01.2020 11:11
 Lab Sample Id: 666055-008 Date Collected: 06.29.2020 09:20 Sample Depth: 3.5 - 4 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 07.01.2020 14:07 Basis: Wet Weight
 Seq Number: 3130575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	10.9	10.0	mg/kg	07.01.2020 16:01		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 07.01.2020 13:00 Basis: Wet Weight
 Seq Number: 3130574

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	07.01.2020 15:56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	07.01.2020 15:56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	07.01.2020 15:56	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	07.01.2020 15:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	108	%	70-135	07.01.2020 15:56	
o-Terphenyl	84-15-1	97	%	70-135	07.01.2020 15:56	



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH04A**
 Lab Sample Id: 666055-008

Matrix: Soil
 Date Collected: 06.29.2020 09:20

Date Received: 07.01.2020 11:11
 Sample Depth: 3.5 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 07.01.2020 12:57

Basis: Wet Weight

Seq Number: 3130572

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.01.2020 18:56	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.01.2020 18:56	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.01.2020 18:56	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.01.2020 18:56	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.01.2020 18:56	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.01.2020 18:56	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.01.2020 18:56	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	101	%	70-130	07.01.2020 18:56		
1,4-Difluorobenzene	540-36-3	99	%	70-130	07.01.2020 18:56		



Xenco

Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH06**
 Lab Sample Id: 666055-009

Matrix: Soil
 Date Collected: 06.29.2020 11:34

Date Received: 07.01.2020 11:11
 Sample Depth: 0.5 - 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3130575

Prep Method: E300P

% Moisture:

Date Prep: 07.01.2020 14:07

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	14.2	9.94	mg/kg	07.01.2020 16:07		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3130574

Prep Method: SW8015P

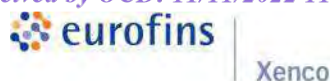
% Moisture:

Date Prep: 07.01.2020 13:00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	07.01.2020 16:17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	07.01.2020 16:17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	07.01.2020 16:17	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	07.01.2020 16:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	113	%	70-135	07.01.2020 16:17	
o-Terphenyl	84-15-1	100	%	70-135	07.01.2020 16:17	



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH06**
 Lab Sample Id: 666055-009

Matrix: Soil
 Date Collected: 06.29.2020 11:34

Date Received: 07.01.2020 11:11
 Sample Depth: 0.5 - 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

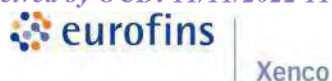
Analyst: MAB

Date Prep: 07.01.2020 12:57

Basis: Wet Weight

Seq Number: 3130572

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.01.2020 19:17	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.01.2020 19:17	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.01.2020 19:17	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	07.01.2020 19:17	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.01.2020 19:17	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.01.2020 19:17	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.01.2020 19:17	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	07.01.2020 19:17		
4-Bromofluorobenzene	460-00-4	105	%	70-130	07.01.2020 19:17		



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

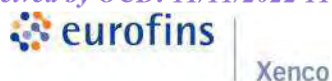
Sample Id: **BH06A** Matrix: Soil Date Received: 07.01.2020 11:11
 Lab Sample Id: 666055-010 Date Collected: 06.29.2020 11:37 Sample Depth: 1.5 - 2 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 07.01.2020 14:07 Basis: Wet Weight
 Seq Number: 3130575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	12.8	9.98	mg/kg	07.01.2020 16:13		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 07.01.2020 13:00 Basis: Wet Weight
 Seq Number: 3130577

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	07.01.2020 14:14	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	07.01.2020 14:14	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	07.01.2020 14:14	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	07.01.2020 14:14	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	07.01.2020 14:14	
o-Terphenyl	84-15-1	74	%	70-135	07.01.2020 14:14	



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH06A**
 Lab Sample Id: 666055-010

Matrix: Soil
 Date Collected: 06.29.2020 11:37

Date Received: 07.01.2020 11:11
 Sample Depth: 1.5 - 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

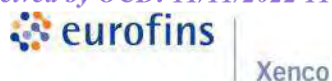
Analyst: MAB

Date Prep: 07.01.2020 12:57

Basis: Wet Weight

Seq Number: 3130572

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.01.2020 19:39	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.01.2020 19:39	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.01.2020 19:39	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.01.2020 19:39	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.01.2020 19:39	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.01.2020 19:39	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.01.2020 19:39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	103	%	70-130	07.01.2020 19:39		
1,4-Difluorobenzene	540-36-3	100	%	70-130	07.01.2020 19:39		



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

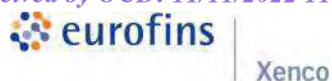
Sample Id: **BH07** Matrix: Soil Date Received: 07.01.2020 11:11
 Lab Sample Id: 666055-011 Date Collected: 06.29.2020 12:27 Sample Depth: 0.5 - 1 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 07.01.2020 14:07 Basis: Wet Weight
 Seq Number: 3130575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	07.01.2020 16:19	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 07.01.2020 13:00 Basis: Wet Weight
 Seq Number: 3130577

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	07.01.2020 14:34	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	07.01.2020 14:34	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	07.01.2020 14:34	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	07.01.2020 14:34	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	81	%	70-135	07.01.2020 14:34	
o-Terphenyl	84-15-1	75	%	70-135	07.01.2020 14:34	



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH07**
 Lab Sample Id: 666055-011

Matrix: Soil
 Date Collected: 06.29.2020 12:27

Date Received: 07.01.2020 11:11
 Sample Depth: 0.5 - 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

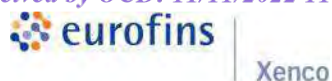
Analyst: MAB

Date Prep: 07.01.2020 12:57

Basis: Wet Weight

Seq Number: 3130572

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.01.2020 20:55	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.01.2020 20:55	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.01.2020 20:55	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.01.2020 20:55	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.01.2020 20:55	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.01.2020 20:55	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.01.2020 20:55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	95	%	70-130	07.01.2020 20:55		
1,4-Difluorobenzene	540-36-3	96	%	70-130	07.01.2020 20:55		



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

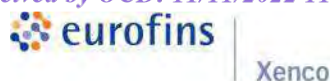
Sample Id: **BH07A** Matrix: Soil Date Received: 07.01.2020 11:11
 Lab Sample Id: 666055-012 Date Collected: 06.29.2020 13:31 Sample Depth: 1.5 - 2 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 07.01.2020 14:07 Basis: Wet Weight
 Seq Number: 3130575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.98	9.98	mg/kg	07.01.2020 16:37	U	1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 07.01.2020 13:00 Basis: Wet Weight
 Seq Number: 3130577

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	07.01.2020 14:55	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	07.01.2020 14:55	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	07.01.2020 14:55	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	07.01.2020 14:55	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	77	%	70-135	07.01.2020 14:55	
o-Terphenyl	84-15-1	75	%	70-135	07.01.2020 14:55	



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH07A**
 Lab Sample Id: 666055-012

Matrix: Soil
 Date Collected: 06.29.2020 13:31

Date Received: 07.01.2020 11:11
 Sample Depth: 1.5 - 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 07.01.2020 12:57

Basis: Wet Weight

Seq Number: 3130572

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	07.01.2020 21:16	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	07.01.2020 21:16	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	07.01.2020 21:16	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	07.01.2020 21:16	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	07.01.2020 21:16	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	07.01.2020 21:16	U	1
Total BTEX		<0.00199	0.00199	mg/kg	07.01.2020 21:16	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	07.01.2020 21:16		
4-Bromofluorobenzene	460-00-4	104	%	70-130	07.01.2020 21:16		



Xenco

Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH08**
 Lab Sample Id: 666055-013

Matrix: Soil
 Date Collected: 06.29.2020 12:30

Date Received: 07.01.2020 11:11
 Sample Depth: 0.5 - 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3130575

Prep Method: E300P

% Moisture:

Date Prep: 07.01.2020 14:07

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	430	9.98	mg/kg	07.01.2020 16:42		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3130577

Prep Method: SW8015P

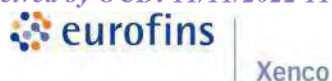
% Moisture:

Date Prep: 07.01.2020 13:00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	07.01.2020 15:15	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	07.01.2020 15:15	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	07.01.2020 15:15	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	07.01.2020 15:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	80	%	70-135	07.01.2020 15:15	
o-Terphenyl	84-15-1	74	%	70-135	07.01.2020 15:15	



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH08**
 Lab Sample Id: 666055-013

Matrix: Soil
 Date Collected: 06.29.2020 12:30

Date Received: 07.01.2020 11:11
 Sample Depth: 0.5 - 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 07.01.2020 12:57

Basis: Wet Weight

Seq Number: 3130572

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	07.01.2020 21:38	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	07.01.2020 21:38	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	07.01.2020 21:38	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	07.01.2020 21:38	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	07.01.2020 21:38	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	07.01.2020 21:38	U	1
Total BTEX		<0.00202	0.00202	mg/kg	07.01.2020 21:38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	104	%	70-130	07.01.2020 21:38		
1,4-Difluorobenzene	540-36-3	100	%	70-130	07.01.2020 21:38		



Xenco

Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH08A**
 Lab Sample Id: 666055-014

Matrix: Soil
 Date Collected: 06.29.2020 12:40

Date Received: 07.01.2020 11:11
 Sample Depth: 3.5 - 4 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3130575

Prep Method: E300P

% Moisture:

Date Prep: 07.01.2020 14:07

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	531	9.92	mg/kg	07.01.2020 17:00		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3130577

Prep Method: SW8015P

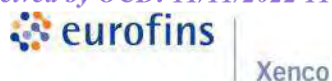
% Moisture:

Date Prep: 07.01.2020 13:00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	07.01.2020 15:36	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	07.01.2020 15:36	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	07.01.2020 15:36	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	07.01.2020 15:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	78	%	70-135	07.01.2020 15:36	
o-Terphenyl	84-15-1	75	%	70-135	07.01.2020 15:36	



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH08A**
 Lab Sample Id: 666055-014

Matrix: Soil
 Date Collected: 06.29.2020 12:40

Date Received: 07.01.2020 11:11
 Sample Depth: 3.5 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

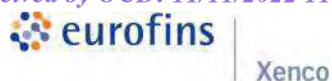
Analyst: MAB

Date Prep: 07.01.2020 12:57

Basis: Wet Weight

Seq Number: 3130572

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.01.2020 21:59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.01.2020 21:59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.01.2020 21:59	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.01.2020 21:59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.01.2020 21:59	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.01.2020 21:59	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.01.2020 21:59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	105	%	70-130	07.01.2020 21:59		
1,4-Difluorobenzene	540-36-3	100	%	70-130	07.01.2020 21:59		



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

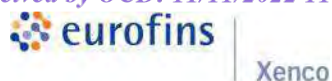
Sample Id: **BH09** Matrix: Soil Date Received: 07.01.2020 11:11
 Lab Sample Id: 666055-015 Date Collected: 06.29.2020 13:12 Sample Depth: 0.5 - 1 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 07.01.2020 14:07 Basis: Wet Weight
 Seq Number: 3130575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	18.4	10.0	mg/kg	07.01.2020 17:06		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 07.01.2020 13:00 Basis: Wet Weight
 Seq Number: 3130577

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	07.01.2020 15:56	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	07.01.2020 15:56	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	07.01.2020 15:56	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	07.01.2020 15:56	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	76	%	70-135	07.01.2020 15:56	
o-Terphenyl	84-15-1	74	%	70-135	07.01.2020 15:56	



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH09**
 Lab Sample Id: 666055-015

Matrix: Soil
 Date Collected: 06.29.2020 13:12

Date Received: 07.01.2020 11:11
 Sample Depth: 0.5 - 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

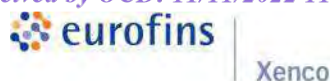
Analyst: MAB

Date Prep: 07.01.2020 12:57

Basis: Wet Weight

Seq Number: 3130572

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	07.01.2020 22:20	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	07.01.2020 22:20	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	07.01.2020 22:20	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	07.01.2020 22:20	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	07.01.2020 22:20	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	07.01.2020 22:20	U	1
Total BTEX		<0.00198	0.00198	mg/kg	07.01.2020 22:20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	07.01.2020 22:20		
4-Bromofluorobenzene	460-00-4	105	%	70-130	07.01.2020 22:20		



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

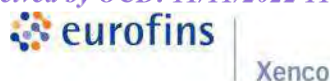
Sample Id: **BH09A** Matrix: Soil Date Received: 07.01.2020 11:11
 Lab Sample Id: 666055-016 Date Collected: 06.29.2020 13:20 Sample Depth: 3.5 - 4 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 07.01.2020 14:07 Basis: Wet Weight
 Seq Number: 3130575

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	46.3	9.98	mg/kg	07.01.2020 17:12		1

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 07.01.2020 13:00 Basis: Wet Weight
 Seq Number: 3130577

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	07.01.2020 16:17	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	07.01.2020 16:17	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	07.01.2020 16:17	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	07.01.2020 16:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	82	%	70-135	07.01.2020 16:17	
o-Terphenyl	84-15-1	75	%	70-135	07.01.2020 16:17	



Certificate of Analytical Results 666055

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH09A**
 Lab Sample Id: 666055-016

Matrix: Soil
 Date Collected: 06.29.2020 13:20

Date Received: 07.01.2020 11:11
 Sample Depth: 3.5 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 07.01.2020 12:57

Basis: Wet Weight

Seq Number: 3130572

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.01.2020 22:42	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.01.2020 22:42	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.01.2020 22:42	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.01.2020 22:42	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.01.2020 22:42	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.01.2020 22:42	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.01.2020 22:42	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	99	%	70-130	07.01.2020 22:42	
4-Bromofluorobenzene	460-00-4	102	%	70-130	07.01.2020 22:42	

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.

RDU 14

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3130575

Matrix: Solid

Prep Method: E300P

Date Prep: 07.01.2020

MB Sample Id: 7706572-1-BLK

LCS Sample Id: 7706572-1-BKS

LCSD Sample Id: 7706572-1-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	258	103	265	106	90-110	3	20	mg/kg	07.01.2020 09:16	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3130575

Matrix: Soil

Prep Method: E300P

Date Prep: 07.01.2020

Parent Sample Id: 666055-001

MS Sample Id: 666055-001 S

MSD Sample Id: 666055-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	13.5	201	200	93	200	93	90-110	0	20	mg/kg	07.01.2020 15:01	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3130575

Matrix: Soil

Prep Method: E300P

Date Prep: 07.01.2020

Parent Sample Id: 666055-011

MS Sample Id: 666055-011 S

MSD Sample Id: 666055-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<9.94	199	192	96	193	97	90-110	1	20	mg/kg	07.01.2020 16:25	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3130574

Matrix: Solid

Prep Method: SW8015P

Date Prep: 07.01.2020

MB Sample Id: 7706586-1-BLK

LCS Sample Id: 7706586-1-BKS

LCSD Sample Id: 7706586-1-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	1090	109	70-135	2	35	mg/kg	07.01.2020 10:45	
Diesel Range Organics (DRO)	<50.0	1000	1120	112	1130	113	70-135	1	35	mg/kg	07.01.2020 10:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	122		118		120		70-135	%	07.01.2020 10:45
o-Terphenyl	110		109		109		70-135	%	07.01.2020 10:45

Analytical Method: TPH by SW8015 Mod

Seq Number: 3130577

Matrix: Solid

Prep Method: SW8015P

Date Prep: 07.01.2020

MB Sample Id: 7706589-1-BLK

LCS Sample Id: 7706589-1-BKS

LCSD Sample Id: 7706589-1-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	1050	105	996	100	70-135	5	35	mg/kg	07.01.2020 10:45	
Diesel Range Organics (DRO)	<50.0	1000	1140	114	1110	111	70-135	3	35	mg/kg	07.01.2020 10:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		121		118		70-135	%	07.01.2020 10:45
o-Terphenyl	101		108		107		70-135	%	07.01.2020 10:45

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



Xenco

QC Summary 666055

LT Environmental, Inc.

RDU 14

Analytical Method: TPH by SW8015 Mod

Seq Number: 3130574

Matrix: Solid

Prep Method: SW8015P

Date Prep: 07.01.2020

MB Sample Id: 7706586-1-BLK

Parameter

Motor Oil Range Hydrocarbons (MRO)

MB
Result

<50.0

Units

mg/kg

Analysis
Date

07.01.2020 10:25

Flag

Analytical Method: TPH by SW8015 Mod

Seq Number: 3130577

Matrix: Solid

Prep Method: SW8015P

Date Prep: 07.01.2020

MB Sample Id: 7706589-1-BLK

Parameter

Motor Oil Range Hydrocarbons (MRO)

MB
Result

<50.0

Units

mg/kg

Analysis
Date

07.01.2020 10:25

Flag

Analytical Method: TPH by SW8015 Mod

Seq Number: 3130574

Matrix: Soil

Prep Method: SW8015P

Date Prep: 07.01.2020

Parent Sample Id: 666055-001

MS Sample Id: 666055-001 S

MSD Sample Id: 666055-001 SD

Parameter

Gasoline Range Hydrocarbons (GRO)

Parent
Result

<50.3

Spike
Amount

1010

MS
Result

1200

MS
%Rec

119

MSD
Result

1180

MSD
%Rec

118

Limits

70-135

%RPD

2

RPD
Limit

35

Units

mg/kg

Analysis
Date

07.01.2020 13:33

Flag

Diesel Range Organics (DRO)

<50.3

1010

1160

115

1120

112

70-135

4

35

mg/kg

07.01.2020 13:33

Surrogate

1-Chlorooctane

MS
%Rec

127

MS
FlagMSD
%Rec

125

MSD
Flag

Limits

70-135

Units

%

Analysis
Date

07.01.2020 13:33

o-Terphenyl

113

110

70-135

%

07.01.2020 13:33

Analytical Method: TPH by SW8015 Mod

Seq Number: 3130577

Matrix: Soil

Prep Method: SW8015P

Date Prep: 07.01.2020

Parent Sample Id: 666055-002

MS Sample Id: 666055-002 S

MSD Sample Id: 666055-002 SD

Parameter

Gasoline Range Hydrocarbons (GRO)

Parent
Result

<50.2

Spike
Amount

1000

MS
Result

1180

MS
%Rec

118

MSD
Result

1030

MSD
%Rec

103

Limits

70-135

%RPD

14

RPD
Limit

35

Units

mg/kg

Analysis
Date

07.01.2020 13:33

Flag

Diesel Range Organics (DRO)

<50.2

1000

1090

109

1160

116

70-135

6

35

mg/kg

07.01.2020 13:33

Surrogate

1-Chlorooctane

MS
%Rec

113

MS
FlagMSD
%Rec

100

MSD
Flag

Limits

70-135

Units

%

Analysis
Date

07.01.2020 13:33

o-Terphenyl

93

99

70-135

%

07.01.2020 13:33

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

LT Environmental, Inc.

RDU 14

Analytical Method: BTEX by EPA 8021B

Seq Number: 3130572

MB Sample Id: 7706587-1-BLK

Matrix: Solid

LCS Sample Id: 7706587-1-BKS

Prep Method: SW5035A

Date Prep: 07.01.2020

LCSD Sample Id: 7706587-1-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	0.107	107	0.110	110	70-130	3	35	mg/kg	07.01.2020 14:27	
Toluene	<0.00200	0.100	0.103	103	0.105	105	70-130	2	35	mg/kg	07.01.2020 14:27	
Ethylbenzene	<0.00200	0.100	0.0971	97	0.0986	99	71-129	2	35	mg/kg	07.01.2020 14:27	
m,p-Xylenes	<0.00400	0.200	0.196	98	0.198	99	70-135	1	35	mg/kg	07.01.2020 14:27	
o-Xylene	<0.00200	0.100	0.0978	98	0.0992	99	71-133	1	35	mg/kg	07.01.2020 14:27	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		99		99		70-130	%	07.01.2020 14:27
4-Bromofluorobenzene	97		101		101		70-130	%	07.01.2020 14:27

Analytical Method: BTEX by EPA 8021B

Seq Number: 3130572

Parent Sample Id: 666055-001

Matrix: Soil

MS Sample Id: 666055-001 S

Prep Method: SW5035A

Date Prep: 07.01.2020

MSD Sample Id: 666055-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.121	122	0.126	126	70-130	4	35	mg/kg	07.01.2020 15:09	
Toluene	<0.00199	0.0994	0.124	125	0.119	119	70-130	4	35	mg/kg	07.01.2020 15:09	
Ethylbenzene	<0.00199	0.0994	0.117	118	0.112	112	71-129	4	35	mg/kg	07.01.2020 15:09	
m,p-Xylenes	<0.00398	0.199	0.237	119	0.229	115	70-135	3	35	mg/kg	07.01.2020 15:09	
o-Xylene	<0.00199	0.0994	0.114	115	0.110	110	71-133	4	35	mg/kg	07.01.2020 15:09	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		100		70-130	%	07.01.2020 15:09
4-Bromofluorobenzene	102		103		70-130	%	07.01.2020 15:09

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) 764-5440 EL Paso, TX (915) 585-3443 Lubbock, TX (806) 794-1296 Corsado, NM (432) 704-5440
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 889-5701

Work Order No: 1631/245.1/7470/7471

1631/245.1/7470/7471

www.xenco.com

Page 1 of 2

Project Manager:	JOSEPH HEANAUDEZ	Bill to: (if different)	LYNDA LAUMBACH
Company Name:	LI ENVIRONMENTAL	Company Name:	WPK ENERGY
Address:	3300 NORTH A STREET	Address:	5315 BUENA VISTA DR
City, State ZIP:	MIDLAND, TX 79705	City, State ZIP:	CARLSBAD, NM 88220
Phone:	(432) 894-5641	Email:	jheanandez@xenco.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:	RDC 14	Turn Around	☒
Project Number:	034620024	Routine	☒
Project Location:	Rural Eddy County	Rush:	
Sampler's Name:	Anna Byers	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT	Temp Blank:	Yes	No	Wet Ice:	Yes	No
Temperature (°C):	3.4 / 3.2			Thermometer ID	TMM07	
Received Intact:	Yes	No				
Cooler Custody Seals:	Yes	No	Correction Factor:	-0.2		
Sample Custody Seals:	Yes	No	Total Containers:	4		

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST	Preservative Codes
BHD1	BHD1A03 BHD1A	5	6/29/30	1035	0.5-1'	1	TPH (EPA 8015)	MeOH: Me
BHD2				1040	3.5-4'	1	BTEX (EPA 8021)	None: NO
BHD2A				0959	2.5-3'	1	Chloride (EPA 300.0)	HNO3: HN
BHD3				1000	3.5-4'	1		H2SO4: H2
BHD3A				0828	0.5-1'	1		HCL: HL
BHD4				0835	3.5-4'	1		NaOH: Na
BHD4A				0916	1.5-2'	1		Zn Acetate+ NaOH: Zn
BHD6				0920	3.5-4'	1		
BHD6A				1134	0.5-1'	1		
BHD6A				1134	1.5-2'	1		

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

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
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
Anna Byers		7/1/20 11:11			

Revision Date 02/28/19 Rev. 2019.1



Chain of Custody

Work Order No: 1616055

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 Casabad, NM (432) 704-5440
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

www.xenco.com Page 2 of 2

Project Manager:	JOSEPH HERNANDEZ	Bill to: (if different)	LYNDA LAMMBAUGH
Company Name:	IT ENVIRONMENTAL	Company Name:	WEX ENERGY
Address:	3800 NORTH A STREET	Address:	5315 BUENA VISTA DR
City, State ZIP:	MIDLAND, TX 79705	City, State ZIP:	CARLSBAD, NM 88220
Phone:	(432) 844-5641	Email:	jhernandez@wex.com

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

Project Name:	RDU 14	Turn Around	☒
Project Number:	034820026	Route:	
Project Location:	Rural Eddy County	Rush:	
Sampler's Name:	Anna Byers	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT	Temperature (°C):	Temp Blank:	Yes	No	Wet Ice:	Yes	No
	Received Impact:	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	Number of Containers	ANALYSIS REQUEST	Preservative Codes	Sample Comments
BHC7		5	6/24/20	1224	0.5-1'	1	TPH (EPA 8015)	MeqH: Me	
BHD7A				1331	1.5-2'	1	BTEX (EPA 8021)	None: NO	
BHD8				1230	0.5-1'	1	Chloride (EPA 300.0)	HNC3: HN	
BHD8A				1240	3.5-4'	1		H2SO4: H2	
BHD9				1312	0.5-1'	1		HCL: HL	
BHD9A				1320	3.5-4'	1		NaOH: Na	
								Zn Acetate+ NaOH: Zn	
								TAT starts the day received by the lab, if received by 4:00pm	

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 A 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
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 sub-contractors. 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
Anna Byers		7/1/20 11:11			

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 07.01.2020 11.11.00 AM

Work Order #: 666055

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

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: 07.01.2020

Checklist reviewed by:



Jessica Kramer

Date: 07.06.2020



Xenco

Certificate of Analysis Summary 666068

LT Environmental, Inc., Arvada, CO

Project Name: RDU 14

Project Id: 034820026
Contact: Joseph Hernandez
Project Location: Rural Eddy County

Date Received in Lab: Wed 07.01.2020 11:11
Report Date: 07.06.2020 08:39
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	666068-001	666068-002	666068-003	666068-004		
	<i>Field Id:</i>	BH10	BH10A	BH10B	BH10C		
	<i>Depth:</i>	0.5-1 ft	1.5-2 ft	2.5-3 ft	3.5-4 ft		
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL		
	<i>Sampled:</i>	06.29.2020 14:20	06.29.2020 14:25	06.29.2020 14:30	06.29.2020 14:35		
BTEX by EPA 8021B	<i>Extracted:</i>	07.01.2020 12:57	07.01.2020 15:02	07.01.2020 15:02	07.01.2020 15:02		
	<i>Analyzed:</i>	07.02.2020 00:08	07.01.2020 19:59	07.01.2020 20:20	07.01.2020 20:40		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200		
Toluene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200		
Ethylbenzene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200		
m,p-Xylenes		<0.00401 0.00401	<0.00401 0.00401	<0.00402 0.00402	<0.00400 0.00400		
o-Xylene		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200		
Total Xylenes		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200		
Total BTEX		<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	<0.00200 0.00200		
Inorganic Anions by EPA 300	<i>Extracted:</i>	07.01.2020 14:07	07.01.2020 14:59	07.01.2020 14:59	07.01.2020 14:59		
	<i>Analyzed:</i>	07.01.2020 17:36	07.01.2020 18:12	07.01.2020 18:30	07.01.2020 18:36		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		1010 10.0	5010 49.7	4190 49.5	5620 50.3		
TPH by SW8015 Mod	<i>Extracted:</i>	07.01.2020 15:00	07.01.2020 15:00	07.01.2020 15:00	07.01.2020 15:00		
	<i>Analyzed:</i>	07.01.2020 19:02	07.01.2020 18:00	07.01.2020 18:21	07.01.2020 18:41		
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<251 251	<251 251	<251 251	<251 251		
Diesel Range Organics (DRO)		3120 251	3800 251	4680 251	4870 251		
Motor Oil Range Hydrocarbons (MRO)		1150 251	1560 251	1970 251	2120 251		
Total TPH		4270 251	5360 251	6650 251	6990 251		

BRL - Below Reporting Limit

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



Xenco

Analytical Report 666068

for

LT Environmental, Inc.

Project Manager: Joseph Hernandez

RDU 14

034820026

07.06.2020

Collected By: Client

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

Xenco-Houston (EPA Lab Code: TX00122):
Texas (T104704215-20-36), Arizona (AZ0765), Florida (E871002-33), Louisiana (03054)
Oklahoma (2019-058), North Carolina (681), Arkansas (20-035-0)

Xenco-Dallas (EPA Lab Code: TX01468):
Texas (T104704295-20-25), Arizona (AZ0809)

Xenco-El Paso (EPA Lab Code: TX00127): Texas (T104704221-20-17)
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 (T104704534-20-7)
Xenco Phoenix (EPA Lab Code: AZ00901): Arizona (AZ0757)
Xenco-Tampa: Florida (E87429), North Carolina (483)



Xenco

07.06.2020

Project Manager: **Joseph Hernandez****LT Environmental, Inc.**

4600 W. 60th Avenue

Arvada, CO 80003

Reference: Eurofins Xenco, LLC Report No(s): **666068****RDU 14**

Project Address: Rural Eddy County

Joseph Hernandez:

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) 666068. 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. 666068 will be filed for 45 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

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

Respectfully,

Jessica Kramer

Project Manager

A Small Business and Minority Company

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

**Sample Cross Reference 666068****LT Environmental, Inc., Arvada, CO**

RDU 14

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH10	S	06.29.2020 14:20	0.5 - 1 ft	666068-001
BH10A	S	06.29.2020 14:25	1.5 - 2 ft	666068-002
BH10B	S	06.29.2020 14:30	2.5 - 3 ft	666068-003
BH10C	S	06.29.2020 14:35	3.5 - 4 ft	666068-004



Xenco

CASE NARRATIVE

Client Name: LT Environmental, Inc.

Project Name: RDU 14

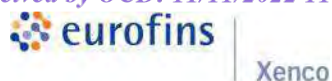
Project ID: 034820026
Work Order Number(s): 666068

Report Date: 07.06.2020
Date Received: 07.01.2020

Sample receipt non conformances and comments:

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 666068

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH10**
Lab Sample Id: 666068-001

Matrix: Soil
Date Collected: 06.29.2020 14:20

Date Received: 07.01.2020 11:11
Sample Depth: 0.5 - 1 ft

Analytical Method: Inorganic Anions by EPA 300

Tech: MAB

Analyst: MAB

Seq Number: 3130575

Prep Method: E300P

% Moisture:

Date Prep: 07.01.2020 14:07

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1010	10.0	mg/kg	07.01.2020 17:36		1

Analytical Method: TPH by SW8015 Mod

Tech: DTH

Analyst: DTH

Seq Number: 3130577

Prep Method: SW8015P

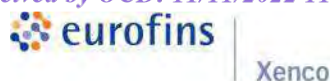
% Moisture:

Date Prep: 07.01.2020 15:00

Basis: Wet Weight

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<251	251	mg/kg	07.01.2020 19:02	U	5
Diesel Range Organics (DRO)	C10C28DRO	3120	251	mg/kg	07.01.2020 19:02		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	1150	251	mg/kg	07.01.2020 19:02		5
Total TPH	PHC635	4270	251	mg/kg	07.01.2020 19:02		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	83	%	70-135	07.01.2020 19:02	
o-Terphenyl	84-15-1	79	%	70-135	07.01.2020 19:02	



Certificate of Analytical Results 666068

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH10**
 Lab Sample Id: 666068-001

Matrix: Soil
 Date Collected: 06.29.2020 14:20

Date Received: 07.01.2020 11:11
 Sample Depth: 0.5 - 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

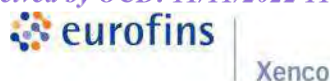
Analyst: MAB

Date Prep: 07.01.2020 12:57

Basis: Wet Weight

Seq Number: 3130572

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.02.2020 00:08	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.02.2020 00:08	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.02.2020 00:08	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.02.2020 00:08	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.02.2020 00:08	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.02.2020 00:08	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.02.2020 00:08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	07.02.2020 00:08		
4-Bromofluorobenzene	460-00-4	100	%	70-130	07.02.2020 00:08		



Certificate of Analytical Results 666068

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH10A** Matrix: Soil Date Received: 07.01.2020 11:11
 Lab Sample Id: 666068-002 Date Collected: 06.29.2020 14:25 Sample Depth: 1.5 - 2 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 07.01.2020 14:59 Basis: Wet Weight
 Seq Number: 3130578

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5010	49.7	mg/kg	07.01.2020 18:12		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 07.01.2020 15:00 Basis: Wet Weight
 Seq Number: 3130577

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<251	251	mg/kg	07.01.2020 18:00	U	5
Diesel Range Organics (DRO)	C10C28DRO	3800	251	mg/kg	07.01.2020 18:00		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	1560	251	mg/kg	07.01.2020 18:00		5
Total TPH	PHC635	5360	251	mg/kg	07.01.2020 18:00		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	07.01.2020 18:00	
o-Terphenyl	84-15-1	80	%	70-135	07.01.2020 18:00	



Certificate of Analytical Results 666068

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH10A**
 Lab Sample Id: 666068-002

Matrix: Soil
 Date Collected: 06.29.2020 14:25

Date Received: 07.01.2020 11:11
 Sample Depth: 1.5 - 2 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

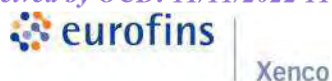
Analyst: MAB

Date Prep: 07.01.2020 15:02

Basis: Wet Weight

Seq Number: 3130571

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.01.2020 19:59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.01.2020 19:59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.01.2020 19:59	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	07.01.2020 19:59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.01.2020 19:59	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.01.2020 19:59	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.01.2020 19:59	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	70-130	07.01.2020 19:59		
1,4-Difluorobenzene	540-36-3	105	%	70-130	07.01.2020 19:59		



Certificate of Analytical Results 666068

LT Environmental, Inc., Arvada, CO

RDU 14

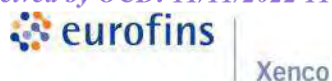
Sample Id: **BH10B** Matrix: Soil Date Received: 07.01.2020 11:11
 Lab Sample Id: 666068-003 Date Collected: 06.29.2020 14:30 Sample Depth: 2.5 - 3 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 07.01.2020 14:59 Basis: Wet Weight
 Seq Number: 3130578

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4190	49.5	mg/kg	07.01.2020 18:30		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 07.01.2020 15:00 Basis: Wet Weight
 Seq Number: 3130577

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<251	251	mg/kg	07.01.2020 18:21	U	5
Diesel Range Organics (DRO)	C10C28DRO	4680	251	mg/kg	07.01.2020 18:21		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	1970	251	mg/kg	07.01.2020 18:21		5
Total TPH	PHC635	6650	251	mg/kg	07.01.2020 18:21		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	88	%	70-135	07.01.2020 18:21	
o-Terphenyl	84-15-1	82	%	70-135	07.01.2020 18:21	



Certificate of Analytical Results 666068

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH10B**
 Lab Sample Id: 666068-003

Matrix: Soil
 Date Collected: 06.29.2020 14:30

Date Received: 07.01.2020 11:11
 Sample Depth: 2.5 - 3 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

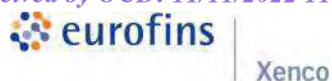
Analyst: MAB

Date Prep: 07.01.2020 15:02

Basis: Wet Weight

Seq Number: 3130571

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	07.01.2020 20:20	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	07.01.2020 20:20	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	07.01.2020 20:20	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	07.01.2020 20:20	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	07.01.2020 20:20	U	1
Total Xylenes	1330-20-7	<0.00201	0.00201	mg/kg	07.01.2020 20:20	U	1
Total BTEX		<0.00201	0.00201	mg/kg	07.01.2020 20:20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	101	%	70-130	07.01.2020 20:20		
4-Bromofluorobenzene	460-00-4	95	%	70-130	07.01.2020 20:20		



Certificate of Analytical Results 666068

LT Environmental, Inc., Arvada, CO

RDU 14

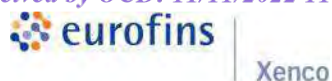
Sample Id: **BH10C** Matrix: Soil Date Received: 07.01.2020 11:11
 Lab Sample Id: 666068-004 Date Collected: 06.29.2020 14:35 Sample Depth: 3.5 - 4 ft
 Analytical Method: Inorganic Anions by EPA 300 Prep Method: E300P
 Tech: MAB % Moisture:
 Analyst: MAB Date Prep: 07.01.2020 14:59 Basis: Wet Weight
 Seq Number: 3130578

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5620	50.3	mg/kg	07.01.2020 18:36		5

Analytical Method: TPH by SW8015 Mod Prep Method: SW8015P
 Tech: DTH % Moisture:
 Analyst: DTH Date Prep: 07.01.2020 15:00 Basis: Wet Weight
 Seq Number: 3130577

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<251	251	mg/kg	07.01.2020 18:41	U	5
Diesel Range Organics (DRO)	C10C28DRO	4870	251	mg/kg	07.01.2020 18:41		5
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	2120	251	mg/kg	07.01.2020 18:41		5
Total TPH	PHC635	6990	251	mg/kg	07.01.2020 18:41		5

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1-Chlorooctane	111-85-3	84	%	70-135	07.01.2020 18:41	
o-Terphenyl	84-15-1	80	%	70-135	07.01.2020 18:41	



Certificate of Analytical Results 666068

LT Environmental, Inc., Arvada, CO

RDU 14

Sample Id: **BH10C**
 Lab Sample Id: 666068-004

Matrix: Soil
 Date Collected: 06.29.2020 14:35

Date Received: 07.01.2020 11:11
 Sample Depth: 3.5 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

% Moisture:

Analyst: MAB

Date Prep: 07.01.2020 15:02

Basis: Wet Weight

Seq Number: 3130571

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	07.01.2020 20:40	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	07.01.2020 20:40	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	07.01.2020 20:40	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	07.01.2020 20:40	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	07.01.2020 20:40	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	07.01.2020 20:40	U	1
Total BTEX		<0.00200	0.00200	mg/kg	07.01.2020 20:40	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	97	%	70-130	07.01.2020 20:40		
1,4-Difluorobenzene	540-36-3	100	%	70-130	07.01.2020 20:40		

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



Xenco

QC Summary 666068

LT Environmental, Inc.

RDU 14

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3130575

Matrix: Solid

Prep Method: E300P

Date Prep: 07.01.2020

MB Sample Id: 7706572-1-BLK

LCS Sample Id: 7706572-1-BKS

LCSD Sample Id: 7706572-1-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	258	103	265	106	90-110	3	20	mg/kg	07.01.2020 09:16	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3130578

Matrix: Solid

Prep Method: E300P

Date Prep: 07.01.2020

MB Sample Id: 7706575-1-BLK

LCS Sample Id: 7706575-1-BKS

LCSD Sample Id: 7706575-1-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	256	102	264	106	90-110	3	20	mg/kg	07.01.2020 18:00	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3130575

Matrix: Soil

Prep Method: E300P

Date Prep: 07.01.2020

Parent Sample Id: 666055-001

MS Sample Id: 666055-001 S

MSD Sample Id: 666055-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	13.5	201	200	93	200	93	90-110	0	20	mg/kg	07.01.2020 15:01	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3130575

Matrix: Soil

Prep Method: E300P

Date Prep: 07.01.2020

Parent Sample Id: 666055-011

MS Sample Id: 666055-011 S

MSD Sample Id: 666055-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<9.94	199	192	96	193	97	90-110	1	20	mg/kg	07.01.2020 16:25	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3130578

Matrix: Soil

Prep Method: E300P

Date Prep: 07.01.2020

Parent Sample Id: 666068-002

MS Sample Id: 666068-002 S

MSD Sample Id: 666068-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	5010	203	5210	99	5210	100	90-110	0	20	mg/kg	07.01.2020 18:18	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3130578

Matrix: Soil

Prep Method: E300P

Date Prep: 07.01.2020

Parent Sample Id: 666135-001

MS Sample Id: 666135-001 S

MSD Sample Id: 666135-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	275	199	418	72	419	72	90-110	0	20	mg/kg	07.01.2020 19:42	X

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.

RDU 14

Analytical Method: TPH by SW8015 Mod

Seq Number: 3130577

MB Sample Id: 7706589-1-BLK

Matrix: Solid

Prep Method: SW8015P

Date Prep: 07.01.2020

LCS Sample Id: 7706589-1-BKS

LCSD Sample Id: 7706589-1-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	1050	105	996	100	70-135	5	35	mg/kg	07.01.2020 10:45	
Diesel Range Organics (DRO)	<50.0	1000	1140	114	1110	111	70-135	3	35	mg/kg	07.01.2020 10:45	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	105		121		118		70-135	%	07.01.2020 10:45
o-Terphenyl	101		108		107		70-135	%	07.01.2020 10:45

Analytical Method: TPH by SW8015 Mod

Seq Number: 3130577

Matrix: Solid

Prep Method: SW8015P

Date Prep: 07.01.2020

MB Sample Id: 7706589-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	07.01.2020 10:25	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3130577

Matrix: Soil

Prep Method: SW8015P

Date Prep: 07.01.2020

Parent Sample Id: 666055-002

MS Sample Id: 666055-002 S

MSD Sample Id: 666055-002 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.2	1000	1180	118	1030	103	70-135	14	35	mg/kg	07.01.2020 13:33	
Diesel Range Organics (DRO)	<50.2	1000	1090	109	1160	116	70-135	6	35	mg/kg	07.01.2020 13:33	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	113		100		70-135	%	07.01.2020 13:33
o-Terphenyl	93		99		70-135	%	07.01.2020 13:33

Analytical Method: BTEX by EPA 8021B

Seq Number: 3130572

Matrix: Solid

Prep Method: SW5035A

Date Prep: 07.01.2020

MB Sample Id: 7706587-1-BLK

LCS Sample Id: 7706587-1-BKS

LCSD Sample Id: 7706587-1-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	0.107	107	0.110	110	70-130	3	35	mg/kg	07.01.2020 14:27	
Toluene	<0.00200	0.100	0.103	103	0.105	105	70-130	2	35	mg/kg	07.01.2020 14:27	
Ethylbenzene	<0.00200	0.100	0.0971	97	0.0986	99	71-129	2	35	mg/kg	07.01.2020 14:27	
m,p-Xylenes	<0.00400	0.200	0.196	98	0.198	99	70-135	1	35	mg/kg	07.01.2020 14:27	
o-Xylene	<0.00200	0.100	0.0978	98	0.0992	99	71-133	1	35	mg/kg	07.01.2020 14:27	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		99		99		70-130	%	07.01.2020 14:27
4-Bromofluorobenzene	97		101		101		70-130	%	07.01.2020 14:27

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.

RDU 14

Analytical Method: BTEX by EPA 8021B

Seq Number: 3130571

Matrix: Solid

Prep Method: SW5035A

Date Prep: 07.01.2020

MB Sample Id: 7706591-1-BLK

LCS Sample Id: 7706591-1-BKS

LCSD Sample Id: 7706591-1-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	0.0921	92	0.0950	95	70-130	3	35	mg/kg	07.01.2020 16:21	
Toluene	<0.00200	0.100	0.0924	92	0.0937	94	70-130	1	35	mg/kg	07.01.2020 16:21	
Ethylbenzene	<0.00200	0.100	0.0963	96	0.0995	100	71-129	3	35	mg/kg	07.01.2020 16:21	
m,p-Xylenes	<0.00400	0.200	0.197	99	0.203	102	70-135	3	35	mg/kg	07.01.2020 16:21	
o-Xylene	<0.00200	0.100	0.0974	97	0.100	100	71-133	3	35	mg/kg	07.01.2020 16:21	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	102		99		98		70-130	%	07.01.2020 16:21
4-Bromofluorobenzene	102		97		100		70-130	%	07.01.2020 16:21

Analytical Method: BTEX by EPA 8021B

Seq Number: 3130572

Matrix: Soil

Prep Method: SW5035A

Date Prep: 07.01.2020

Parent Sample Id: 666055-001

MS Sample Id: 666055-001 S

MSD Sample Id: 666055-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Benzene	<0.00199	0.0994	0.121	122	0.126	126	70-130	4	35	mg/kg	07.01.2020 15:09	
Toluene	<0.00199	0.0994	0.124	125	0.119	119	70-130	4	35	mg/kg	07.01.2020 15:09	
Ethylbenzene	<0.00199	0.0994	0.117	118	0.112	112	71-129	4	35	mg/kg	07.01.2020 15:09	
m,p-Xylenes	<0.00398	0.199	0.237	119	0.229	115	70-135	3	35	mg/kg	07.01.2020 15:09	
o-Xylene	<0.00199	0.0994	0.114	115	0.110	110	71-133	4	35	mg/kg	07.01.2020 15:09	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		100		70-130	%	07.01.2020 15:09
4-Bromofluorobenzene	102		103		70-130	%	07.01.2020 15:09

Analytical Method: BTEX by EPA 8021B

Seq Number: 3130571

Matrix: Soil

Prep Method: SW5035A

Date Prep: 07.01.2020

Parent Sample Id: 666129-001

MS Sample Id: 666129-001 S

MSD Sample Id: 666129-001 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	0.110	110	0.109	108	70-130	1	35	mg/kg	07.01.2020 17:01	
Toluene	<0.00200	0.0998	0.106	106	0.105	104	70-130	1	35	mg/kg	07.01.2020 17:01	
Ethylbenzene	<0.00200	0.0998	0.111	111	0.108	107	71-129	3	35	mg/kg	07.01.2020 17:01	
m,p-Xylenes	<0.00399	0.200	0.227	114	0.222	110	70-135	2	35	mg/kg	07.01.2020 17:01	
o-Xylene	<0.00200	0.0998	0.111	111	0.110	109	71-133	1	35	mg/kg	07.01.2020 17:01	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		99		70-130	%	07.01.2020 17:01
4-Bromofluorobenzene	96		101		70-130	%	07.01.2020 17:01

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:

1631/245.1/7470/7471

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 Corsado, NM (432) 704-5440
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

www.xenco.com

Page 1 of 1

Project Manager:	JOSEPH HERNANDEZ	Bill to: (if different)	LYNDA LAUMBACH
Company Name:	LT ENVIRONMENTAL	Company Name:	WPK ENERGY
Address:	3300 NORTH A STREET	Address:	5315 BUENA VISTA DR
City, State ZIP:	MIDLAND, TX 79705	City, State ZIP:	CARLSBAD, NM 88220
Phone:	(432) 894-5641	Email:	jhernandez@xenco.com

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

Project Name:	RDV 14	Turn Around	☒
Project Number:	034820026	Routine	☒
Project Location:	Rural Eddy County	Rush:	
Sampler's Name:	Anna Byers	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT	Temp Blank:	☒	No	Wet Ice:	☒	No
Temperature (°C):	3.4/3.2	Thermometer ID				
Received In tact:	Yes No	Correction Factor:	-0.2			
Cooler Custody Seals:	Yes No	Total Containers:	4			
Sample Custody Seals:	Yes No					

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	Pres. Code	ANALYSIS REQUEST	Preservative Codes
BH10		S	6/29/20	1420	0.5-1'	1	X	TPH (EPA 8015)	MeOH: Me
BH10A		S		1425	1.5-2'	1	X	BTEX (EPA 8021)	None: NO
BH10B		S		1430	2.5-3'	1	X	Chloride (EPA 300.0)	HNO3: HN
BH10C		S		1435	3.5-4'	1	X		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

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

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
 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
Anna Byers		7/1/20 11:11			

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: LT Environmental, Inc.

Date/ Time Received: 07.01.2020 11.11.00 AM

Work Order #: 666068

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

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: 07.01.2020

Checklist reviewed by:



Jessica Kramer

Date: 07.06.2020

Certificate of Analysis Summary 680635

WSP USA, Dallas, TX

Project Name: RDU 14

Project Id: TE034850026
 Contact: Joseph Hernandez
 Project Location: EddyC County

Date Received in Lab: Thu 12.10.2020 11:57
 Report Date: 12.16.2020 12:09
 Project Manager: Jessica Kramer

<i>Analysis Requested</i>	Lab Id: 680635-001 Field Id: BH11 Depth: 0.3-0.5 ft Matrix: SOIL Sampled: 12.09.2020 13:00	680635-002 BH11A 0.75-1 ft SOIL 12.09.2020 13:02				
BTEX by EPA 8021B	Extracted: 12.11.2020 16:22 Analyzed: 12.12.2020 04:09 Units/RL: mg/kg RL	12.11.2020 16:22 12.12.2020 04:31 mg/kg RL				
Benzene	<0.00200 0.00200	<0.00199 0.00199				
Toluene	<0.00200 0.00200	<0.00199 0.00199				
Ethylbenzene	<0.00200 0.00200	<0.00199 0.00199				
m,p-Xylenes	<0.00399 0.00399	<0.00398 0.00398				
o-Xylene	<0.00200 0.00200	<0.00199 0.00199				
Total Xylenes	<0.002000 0.002000	<0.001990 0.001990				
Total BTEX	<0.002000 0.002000	<0.001990 0.001990				
Inorganic Anions by EPA 300	Extracted: 12.14.2020 16:44 Analyzed: 12.15.2020 16:58 Units/RL: mg/kg RL	12.14.2020 16:44 12.15.2020 17:16 mg/kg RL				
Chloride	101 10.0	99.3 10.0				
TPH by SW8015 Mod	Extracted: 12.10.2020 17:33 Analyzed: 12.12.2020 05:41 Units/RL: mg/kg RL	12.10.2020 17:33 12.12.2020 06:01 mg/kg RL				
Gasoline Range Hydrocarbons (GRO)	<50.2 50.2	<50.1 50.1				
Diesel Range Organics (DRO)	<50.2 50.2	<50.1 50.1				
Motor Oil Range Hydrocarbons (MRO)	<50.2 50.2	<50.1 50.1				
Total TPH	<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





Analytical Report 680635

for

WSP USA

Project Manager: Joseph Hernandez

RDU 14

TE034850026

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: **Joseph Hernandez**

WSP USA

2777 N. Stemmons Freeway, Suite 1600

Dallas, TX 75207

Reference: Eurofins Xenco, LLC Report No(s): **680635**

RDU 14

Project Address: EddyC County

Joseph Hernandez:

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) 680635. 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. 680635 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 680635

WSP USA, Dallas, TX

RDU 14

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
BH11	S	12.09.2020 13:00	0.3 - 0.5 ft	680635-001
BH11A	S	12.09.2020 13:02	0.75 - 1 ft	680635-002



CASE NARRATIVE

Client Name: WSP USA

Project Name: RDU 14

Project ID: TE034850026
Work Order Number(s): 680635

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 680635

WSP USA, Dallas, TX

RDU 14

Sample Id: **BH11**
 Lab Sample Id: 680635-001

Matrix: Soil
 Date Collected: 12.09.2020 13:00

Date Received: 12.10.2020 11:57
 Sample Depth: 0.3 - 0.5 ft

Analytical Method: Inorganic Anions 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	101	10.0	mg/kg	12.15.2020 16:58		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	<50.2	50.2	mg/kg	12.12.2020 05:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.12.2020 05:41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.12.2020 05:41	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.12.2020 05:41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	107	%	70-135	12.12.2020 05:41		
o-Terphenyl	84-15-1	113	%	70-135	12.12.2020 05:41		



Certificate of Analytical Results 680635

WSP USA, Dallas, TX

RDU 14

Sample Id: **BH11**
 Lab Sample Id: 680635-001

Matrix: Soil
 Date Collected: 12.09.2020 13:00

Date Received: 12.10.2020 11:57
 Sample Depth: 0.3 - 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 16:22

% Moisture:
 Basis: Wet Weight

Seq Number: 3144729

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.12.2020 04:09	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.12.2020 04:09	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.12.2020 04:09	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.12.2020 04:09	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.12.2020 04:09	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.12.2020 04:09	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.12.2020 04:09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.12.2020 04:09		
4-Bromofluorobenzene	460-00-4	120	%	70-130	12.12.2020 04:09		



Certificate of Analytical Results 680635

WSP USA, Dallas, TX

RDU 14

Sample Id: **BH11A**
 Lab Sample Id: 680635-002

Matrix: Soil
 Date Collected: 12.09.2020 13:02

Date Received: 12.10.2020 11:57
 Sample Depth: 0.75 - 1 ft

Analytical Method: Inorganic Anions 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	99.3	10.0	mg/kg	12.15.2020 17:16		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	<50.1	50.1	mg/kg	12.12.2020 06:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.12.2020 06:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.12.2020 06:01	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.12.2020 06:01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	120	%	70-135	12.12.2020 06:01		
o-Terphenyl	84-15-1	103	%	70-135	12.12.2020 06:01		



Certificate of Analytical Results 680635

WSP USA, Dallas, TX

RDU 14

Sample Id: **BH11A**
 Lab Sample Id: 680635-002

Matrix: Soil
 Date Collected: 12.09.2020 13:02

Date Received: 12.10.2020 11:57
 Sample Depth: 0.75 - 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 16:22

% Moisture:
 Basis: Wet Weight

Seq Number: 3144729

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.12.2020 04:31	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.12.2020 04:31	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.12.2020 04:31	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.12.2020 04:31	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.12.2020 04:31	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.12.2020 04:31	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.12.2020 04:31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.12.2020 04:31		
4-Bromofluorobenzene	460-00-4	123	%	70-130	12.12.2020 04:31		



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



WSP USA

RDU 14

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3145019

Matrix: Solid

Prep Method: E300P

Date Prep: 12.14.2020

MB Sample Id: 7717075-1-BLK

LCS Sample Id: 7717075-1-BKS

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: Inorganic Anions by EPA 300

Seq Number: 3145019

Matrix: Soil

Prep Method: E300P

Date Prep: 12.14.2020

Parent Sample Id: 680628-013

MS Sample Id: 680628-013 S

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: Inorganic Anions by EPA 300

Seq Number: 3145019

Matrix: Soil

Prep Method: E300P

Date Prep: 12.14.2020

Parent Sample Id: 680634-006

MS Sample Id: 680634-006 S

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	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144745

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.10.2020

MB Sample Id: 7716879-1-BLK

LCS Sample Id: 7716879-1-BKS

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: 3144745

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.10.2020

MB Sample Id: 7716879-1-BLK

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



WSP USA

RDU 14

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: 3144729

MB Sample Id: 7716958-1-BLK

Matrix: Solid

LCS Sample Id: 7716958-1-BKS

Prep Method: SW5035A

Date Prep: 12.11.2020

LCSD Sample Id: 7716958-1-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	0.0879	88	0.0935	94	70-130	6	35	mg/kg	12.12.2020 02:05	
Toluene	<0.00200	0.100	0.0826	83	0.0873	87	70-130	6	35	mg/kg	12.12.2020 02:05	
Ethylbenzene	<0.00200	0.100	0.0858	86	0.0931	93	71-129	8	35	mg/kg	12.12.2020 02:05	
m,p-Xylenes	<0.00400	0.200	0.174	87	0.188	94	70-135	8	35	mg/kg	12.12.2020 02:05	
o-Xylene	<0.00200	0.100	0.0860	86	0.0929	93	71-133	8	35	mg/kg	12.12.2020 02:05	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	107		96		101		70-130	%	12.12.2020 02:05
4-Bromofluorobenzene	123		108		111		70-130	%	12.12.2020 02:05

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144729

Parent Sample Id: 680635-001

Matrix: Soil

MS Sample Id: 680635-001 S

Prep Method: SW5035A

Date Prep: 12.11.2020

MSD Sample Id: 680635-001 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	0.0873	87	0.0876	88	70-130	0	35	mg/kg	12.12.2020 02:49	
Toluene	<0.00200	0.100	0.0791	79	0.0780	78	70-130	1	35	mg/kg	12.12.2020 02:49	
Ethylbenzene	<0.00200	0.100	0.0770	77	0.0770	77	71-129	0	35	mg/kg	12.12.2020 02:49	
m,p-Xylenes	<0.00401	0.200	0.160	80	0.154	77	70-135	4	35	mg/kg	12.12.2020 02:49	
o-Xylene	<0.00200	0.100	0.0807	81	0.0756	76	71-133	7	35	mg/kg	12.12.2020 02:49	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	103		101		70-130	%	12.12.2020 02:49
4-Bromofluorobenzene	115		114		70-130	%	12.12.2020 02:49

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



Chain of Custody

Work Order No:

680635

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) 355-0910 Atlanta, GA (770) 448-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-6701

www.xenco.com

Page 1 of 1

Project Manager:	Joseph Hernandez	Bill to: (if different)	Lynda Laumbach
Company Name:	WSP USA Inc.	Company Name:	WPX Energy
Address:	3300 N A St	Address:	5315 Buena Vista Dr
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(281) 702-2329	Email:	joe.hernandez@wsp.com

Project Name:	RDU 14	Turn Around	
Project Number:	TE 034820026	Routine	☒
Project Location:	Eddy County	Rush:	
Sampler's Name:	Anna Byers	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT		Temp Blank:	☒	No	Wet Ice:	☒	No
Temperature (°C):	10.0	Thermometer ID:	T-NM-001				
Received Intact:	☒	Correction Factor:	-0.2				
Cooler Custody Seals:	Yes ☒ No ☐ N/A	Total Containers:	2				
Sample Custody Seals:	Yes ☒ No ☐ N/A						

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST	Preservative Codes
BH11		S	12/19/20	1300	0.3-0.5'	1	TPH (EPA 8015 Mod)	MeOH: Me
BH11A		S	12/19/20	1302	0.3-0.5'	1	BTEX (EPA 8021 B)	None: NO
							Chloride (EPA 300.0)	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

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

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
 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
Anna Byers	Cole Byers	12-10-20 1157			
		2			
		4			
		6			

Certificate of Analysis Summary 680641



WSP USA, Dallas, TX

Project Name: RDU 14

Project Id: TE034820026
Contact: Joseph Hernandez
Project Location: Eddy County

Date Received in Lab: Thu 12.10.2020 11:57
Report Date: 12.16.2020 12:44
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	680641-001	680641-002	680641-003	680641-004	680641-005	680641-006
	<i>Field Id:</i>	FS01	FS02	FS03	FS04	FS05	FS06
	<i>Depth:</i>	0.5- ft	0.5- ft	1- ft	1- ft	1- ft	1- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.09.2020 10:48	12.09.2020 10:54	12.09.2020 10:08	12.09.2020 10:11	12.09.2020 10:13	12.09.2020 10:15
BTEX by EPA 8021B	<i>Extracted:</i>	12.11.2020 17:00	12.11.2020 17:00	12.11.2020 17:00	12.14.2020 08:28	12.14.2020 08:28	12.14.2020 08:28
	<i>Analyzed:</i>	12.12.2020 08:15	12.12.2020 08:38	12.12.2020 09:00	12.14.2020 12:59	12.14.2020 13:21	12.14.2020 13:44
	<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	<0.00201 0.00201	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
Toluene		<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
Ethylbenzene		<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
m,p-Xylenes		<0.00402 0.00402	<0.00402 0.00402	<0.00396 0.00396	<0.00400 0.00400	<0.00397 0.00397	<0.00399 0.00399
o-Xylene		<0.00201 0.00201	<0.00201 0.00201	<0.00198 0.00198	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
Total Xylenes		<0.002010 0.002010	<0.002010 0.002010	<0.001980 0.001980	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
Total BTEX		<0.002010 0.002010	<0.002010 0.002010	<0.001980 0.001980	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200
Inorganic Anions by EPA 300	<i>Extracted:</i>	12.14.2020 17:30	12.14.2020 17:30	12.14.2020 17:30	12.14.2020 17:30	12.14.2020 17:30	12.14.2020 17:30
	<i>Analyzed:</i>	12.15.2020 18:22	12.15.2020 18:40	12.15.2020 18:46	12.15.2020 18:52	12.15.2020 18:58	12.15.2020 19:23
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		<9.92 9.92	11.3 10.1	23.7 10.1	87.7 9.92	246 9.92	42.2 9.90
TPH by SW8015 Mod	<i>Extracted:</i>	12.10.2020 17:33	12.10.2020 17:33	12.10.2020 17:33	12.11.2020 17:01	12.11.2020 17:01	12.11.2020 17:01
	<i>Analyzed:</i>	12.12.2020 06:22	12.12.2020 06:42	12.12.2020 07:03	12.14.2020 11:18	12.14.2020 12:19	12.14.2020 12:39
	<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	<50.1 50.1	<50.1 50.1	<50.0 50.0	<50.3 50.3
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<50.1 50.1	54.2 50.1	<50.0 50.0	98.3 50.3
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<50.1 50.1	<50.1 50.1	<50.0 50.0	<50.3 50.3
Total TPH		<50.00 50.00	<49.90 49.90	<50.10 50.10	54.2 50.1	<50.0 50.0	98.3 50.3

BRL - Below Reporting Limit

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

Certificate of Analysis Summary 680641



WSP USA, Dallas, TX

Project Name: RDU 14

Project Id: TE034820026
Contact: Joseph Hernandez
Project Location: Eddy County

Date Received in Lab: Thu 12.10.2020 11:57
Report Date: 12.16.2020 12:44
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	680641-007	680641-008	680641-009	680641-010	680641-011	680641-012
	<i>Field Id:</i>	FS07	FS08	FS09	FS10	FS11	FS12
	<i>Depth:</i>	1.5-4 ft	4- ft	4- ft	4- ft	4- ft	4- ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.09.2020 13:00	12.09.2020 13:34	12.09.2020 13:36	12.09.2020 13:39	12.09.2020 13:42	12.09.2020 13:44
BTEX by EPA 8021B	<i>Extracted:</i>	12.14.2020 08:28	12.14.2020 08:28	12.14.2020 08:28	12.14.2020 08:28	12.14.2020 08:28	12.14.2020 08:28
	<i>Analyzed:</i>	12.14.2020 14:06	12.14.2020 14:28	12.14.2020 14:51	12.14.2020 15:13	12.14.2020 15:36	12.14.2020 15:58
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.0000198 0.0000198	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199
Toluene		<0.0000198 0.0000198	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199
Ethylbenzene		<0.0000198 0.0000198	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199
m,p-Xylenes		<0.0000396 0.0000396	<0.00398 0.00398	<0.00399 0.00399	<0.00401 0.00401	<0.00403 0.00403	<0.00398 0.00398
o-Xylene		<0.0000198 0.0000198	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199
Total Xylenes		<0.0000198 0.0000198	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199
Total BTEX		<0.0000198 0.0000198	<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00202 0.00202	<0.00199 0.00199
Inorganic Anions by EPA 300	<i>Extracted:</i>	12.14.2020 17:30	12.14.2020 17:30	12.14.2020 17:30	12.14.2020 17:30	12.14.2020 17:30	12.14.2020 17:30
	<i>Analyzed:</i>	12.15.2020 19:29	12.15.2020 19:35	12.15.2020 19:41	12.15.2020 19:47	12.15.2020 19:53	12.15.2020 20:11
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		442 9.98	1070 9.98	932 10.1	2170 50.5	4340 50.2	1710 49.9
TPH by SW8015 Mod	<i>Extracted:</i>	12.11.2020 17:01	12.11.2020 17:01	12.11.2020 17:01	12.11.2020 17:01	12.11.2020 17:01	12.11.2020 17:01
	<i>Analyzed:</i>	12.14.2020 13:00	12.14.2020 13:20	12.14.2020 13:40	12.14.2020 14:01	12.14.2020 14:22	12.14.2020 14:42
	<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)		<50.1 50.1	<50.3 50.3	<49.9 49.9	<49.9 49.9	<50.3 50.3	<49.8 49.8
Diesel Range Organics (DRO)		272 50.1	<50.3 50.3	57.2 49.9	<49.9 49.9	<50.3 50.3	<49.8 49.8
Motor Oil Range Hydrocarbons (MRO)		65.0 50.1	<50.3 50.3	<49.9 49.9	<49.9 49.9	<50.3 50.3	<49.8 49.8
Total TPH		337 50.1	<50.3 50.3	57.2 49.9	<49.9 49.9	<50.3 50.3	<49.8 49.8

BRL - Below Reporting Limit

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

Certificate of Analysis Summary 680641



WSP USA, Dallas, TX

Project Name: RDU 14

Project Id: TE034820026
Contact: Joseph Hernandez
Project Location: Eddy County

Date Received in Lab: Thu 12.10.2020 11:57
Report Date: 12.16.2020 12:44
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	680641-013	680641-014	680641-015	680641-016	680641-017	680641-018
	<i>Field Id:</i>	FS13	FS14	FS16	FS17	FS18	FS19
	<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>	12.09.2020 13:46	12.09.2020 13:48	12.09.2020 14:42	12.09.2020 14:44	12.09.2020 14:47	12.09.2020 14:50
BTEX by EPA 8021B	<i>Extracted:</i>	12.14.2020 08:28	12.14.2020 08:28	12.14.2020 08:28	12.14.2020 08:28	12.14.2020 08:28	12.14.2020 08:28
	<i>Analyzed:</i>	12.14.2020 16:20	12.14.2020 18:23	12.14.2020 18:45	12.14.2020 19:08	12.14.2020 19:30	12.14.2020 19:53
	<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	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198
Toluene		<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198
Ethylbenzene		<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198
m,p-Xylenes		<0.00399 0.00399	<0.00398 0.00398	<0.00396 0.00396	<0.00399 0.00399	<0.00398 0.00398	<0.00397 0.00397
o-Xylene		<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198
Total Xylenes		<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198
Total BTEX		<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198	<0.00200 0.00200	<0.00199 0.00199	<0.00198 0.00198
Inorganic Anions by EPA 300	<i>Extracted:</i>	12.14.2020 17:30	12.14.2020 17:30	12.14.2020 17:30	12.14.2020 17:30	12.14.2020 17:30	12.14.2020 17:30
	<i>Analyzed:</i>	12.15.2020 20:17	12.15.2020 20:23	12.15.2020 20:40	12.15.2020 20:46	12.15.2020 20:52	12.15.2020 20:58
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		1880 50.4	1160 50.3	1200 10.0	1090 9.94	1510 50.1	3860 D 49.7
TPH by SW8015 Mod	<i>Extracted:</i>	12.11.2020 17:01	12.11.2020 17:01	12.11.2020 17:01	12.11.2020 17:01	12.11.2020 17:01	12.11.2020 17:01
	<i>Analyzed:</i>	12.14.2020 15:03	12.14.2020 15:43	12.14.2020 16:04	12.14.2020 16:24	12.14.2020 16:45	12.14.2020 17:05
	<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)		<49.8 49.8	<50.0 50.0	<49.8 49.8	<49.9 49.9	<49.9 49.9	<50.2 50.2
Diesel Range Organics (DRO)		<49.8 49.8	<50.0 50.0	81.1 49.8	<49.9 49.9	<49.9 49.9	<50.2 50.2
Motor Oil Range Hydrocarbons (MRO)		<49.8 49.8	<50.0 50.0	<49.8 49.8	<49.9 49.9	<49.9 49.9	<50.2 50.2
Total TPH		<49.8 49.8	<50.0 50.0	81.1 49.8	<49.9 49.9	<49.9 49.9	<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 680641



WSP USA, Dallas, TX

Project Name: RDU 14

Project Id: TE034820026
Contact: Joseph Hernandez
Project Location: Eddy County

Date Received in Lab: Thu 12.10.2020 11:57
Report Date: 12.16.2020 12:44
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	680641-019	680641-020	680641-021	680641-022	680641-023	680641-024
	<i>Field Id:</i>	FS20	FS21	FS22	FS23	FS24	FS25
	<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>	12.09.2020 14:52	12.09.2020 14:54	12.09.2020 14:56	12.09.2020 15:56	12.09.2020 16:00	12.09.2020 16:02
BTEX by EPA 8021B	<i>Extracted:</i>	12.14.2020 08:28	12.14.2020 08:28	12.14.2020 08:28	12.14.2020 08:28	12.14.2020 08:28	12.11.2020 17:00
	<i>Analyzed:</i>	12.14.2020 20:15	12.14.2020 20:37	12.14.2020 21:00	12.14.2020 21:22	12.14.2020 21:44	12.12.2020 09:23
	<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	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198
Toluene		<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198
Ethylbenzene		<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198
m,p-Xylenes		<0.00399 0.00399	<0.00398 0.00398	<0.00403 0.00403	<0.00404 0.00404	<0.00401 0.00401	<0.00396 0.00396
o-Xylene		<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.00198 0.00198
Total Xylenes		<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.001980 0.001980
Total BTEX		<0.00200 0.00200	<0.00199 0.00199	<0.00202 0.00202	<0.00202 0.00202	<0.00200 0.00200	<0.001980 0.001980
Inorganic Anions by EPA 300	<i>Extracted:</i>	12.14.2020 17:30	12.14.2020 17:30	12.14.2020 15:41	12.11.2020 12:00	12.11.2020 12:00	12.11.2020 12:00
	<i>Analyzed:</i>	12.15.2020 21:04	12.15.2020 21:10	12.15.2020 01:22	12.11.2020 16:24	12.11.2020 16:39	12.11.2020 16:44
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		2700 49.9	3260 49.9	2420 49.6	3910 49.5	4460 49.9	1740 49.6
TPH by SW8015 Mod	<i>Extracted:</i>	12.11.2020 17:01	12.11.2020 17:01	12.11.2020 17:01	12.11.2020 17:01	12.11.2020 17:01	12.11.2020 17:56
	<i>Analyzed:</i>	12.14.2020 17:25	12.14.2020 17:46	12.14.2020 18:06	12.14.2020 18:27	12.14.2020 18:48	12.12.2020 04:20
	<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)		<50.2 50.2	<50.0 50.0	<50.1 50.1	<50.0 50.0	<50.1 50.1	<50.3 50.3
Diesel Range Organics (DRO)		<50.2 50.2	<50.0 50.0	<50.1 50.1	<50.0 50.0	<50.1 50.1	<50.3 50.3
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<50.0 50.0	<50.1 50.1	<50.0 50.0	<50.1 50.1	<50.3 50.3
Total TPH		<50.2 50.2	<50.0 50.0	<50.1 50.1	<50.0 50.0	<50.1 50.1	<50.30 50.30

BRL - Below Reporting Limit

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

Certificate of Analysis Summary 680641



WSP USA, Dallas, TX

Project Name: RDU 14

Project Id: TE034820026
Contact: Joseph Hernandez
Project Location: Eddy County

Date Received in Lab: Thu 12.10.2020 11:57
Report Date: 12.16.2020 12:44
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	680641-025	680641-026	680641-027	680641-028	680641-029	
	<i>Field Id:</i>	FS26	FS27	FS28	FS29	FS30	
	<i>Depth:</i>	4- ft	4- ft	4- ft	4- ft	4- ft	
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	
	<i>Sampled:</i>	12.09.2020 16:04	12.09.2020 16:06	12.09.2020 16:08	12.09.2020 16:10	12.09.2020 16:12	
BTEX by EPA 8021B	<i>Extracted:</i>	12.11.2020 17:00	12.11.2020 17:00	12.11.2020 17:00	12.11.2020 14:20	12.11.2020 14:20	
	<i>Analyzed:</i>	12.12.2020 09:45	12.12.2020 10:07	12.12.2020 10:30	12.11.2020 21:33	12.11.2020 21:55	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Benzene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	
Toluene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	
Ethylbenzene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	
m,p-Xylenes		<0.00398 0.00398	<0.00400 0.00400	<0.00401 0.00401	<0.00401 0.00401	<0.00402 0.00402	
o-Xylene		<0.00199 0.00199	<0.00200 0.00200	<0.00200 0.00200	<0.00200 0.00200	<0.00201 0.00201	
Total Xylenes		<0.001990 0.001990	<0.002000 0.002000	<0.002000 0.002000	<0.002000 0.002000	<0.002010 0.002010	
Total BTEX		<0.001990 0.001990	<0.002000 0.002000	<0.002000 0.002000	<0.002000 0.002000	<0.002010 0.002010	
Inorganic Anions by EPA 300	<i>Extracted:</i>	12.11.2020 12:00	12.11.2020 12:00	12.11.2020 12:00	12.11.2020 12:00	12.11.2020 12:00	
	<i>Analyzed:</i>	12.11.2020 16:59	12.11.2020 17:05	12.11.2020 17:10	12.11.2020 16:13	12.11.2020 16:19	
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	
Chloride		5280 49.9	3190 49.8	3640 49.9	3050 49.8	4750 49.8	
TPH by SW8015 Mod	<i>Extracted:</i>	12.11.2020 17:56	12.11.2020 17:56	12.11.2020 17:56	12.11.2020 17:56	12.11.2020 17:56	
	<i>Analyzed:</i>	12.12.2020 04:40	12.12.2020 05:00	12.12.2020 05:20	12.12.2020 05:41	12.12.2020 06:01	
	<i>Units/RL:</i>	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	<49.9 49.9	<50.0 50.0	<50.0 50.0	
Diesel Range Organics (DRO)		<50.0 50.0	<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.0 50.0	
Motor Oil Range Hydrocarbons (MRO)		<50.0 50.0	<49.9 49.9	<49.9 49.9	<50.0 50.0	<50.0 50.0	
Total TPH		<50.00 50.00	<49.90 49.90	<49.90 49.90	<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



Analytical Report 680641

for

WSP USA

Project Manager: Joseph Hernandez

RDU 14

TE034820026

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: **Joseph Hernandez**

WSP USA

2777 N. Stemmons Freeway, Suite 1600

Dallas, TX 75207

Reference: Eurofins Xenco, LLC Report No(s): **680641**

RDU 14

Project Address: Eddy County

Joseph Hernandez:

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) 680641. 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. 680641 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 680641

WSP USA, Dallas, TX

RDU 14

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS01	S	12.09.2020 10:48	0.5 ft	680641-001
FS02	S	12.09.2020 10:54	0.5 ft	680641-002
FS03	S	12.09.2020 10:08	1 ft	680641-003
FS04	S	12.09.2020 10:11	1 ft	680641-004
FS05	S	12.09.2020 10:13	1 ft	680641-005
FS06	S	12.09.2020 10:15	1 ft	680641-006
FS07	S	12.09.2020 13:00	1.5 - 4 ft	680641-007
FS08	S	12.09.2020 13:34	4 ft	680641-008
FS09	S	12.09.2020 13:36	4 ft	680641-009
FS10	S	12.09.2020 13:39	4 ft	680641-010
FS11	S	12.09.2020 13:42	4 ft	680641-011
FS12	S	12.09.2020 13:44	4 ft	680641-012
FS13	S	12.09.2020 13:46	4 ft	680641-013
FS14	S	12.09.2020 13:48	4 ft	680641-014
FS16	S	12.09.2020 14:42	4 ft	680641-015
FS17	S	12.09.2020 14:44	4 ft	680641-016
FS18	S	12.09.2020 14:47	4 ft	680641-017
FS19	S	12.09.2020 14:50	4 ft	680641-018
FS20	S	12.09.2020 14:52	4 ft	680641-019
FS21	S	12.09.2020 14:54	4 ft	680641-020
FS22	S	12.09.2020 14:56	4 ft	680641-021
FS23	S	12.09.2020 15:56	4 ft	680641-022
FS24	S	12.09.2020 16:00	4 ft	680641-023
FS25	S	12.09.2020 16:02	4 ft	680641-024
FS26	S	12.09.2020 16:04	4 ft	680641-025
FS27	S	12.09.2020 16:06	4 ft	680641-026
FS28	S	12.09.2020 16:08	4 ft	680641-027
FS29	S	12.09.2020 16:10	4 ft	680641-028
FS30	S	12.09.2020 16:12	4 ft	680641-029



CASE NARRATIVE

Client Name: WSP USA

Project Name: RDU 14

Project ID: TE034820026
Work Order Number(s): 680641

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 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS01**
Lab Sample Id: 680641-001

Matrix: Soil
Date Collected: 12.09.2020 10:48

Date Received: 12.10.2020 11:57
Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 17:30

% Moisture:
Basis: Wet Weight

Seq Number: 3145023

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	<9.92	9.92	mg/kg	12.15.2020 18:22	U	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 06:22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.12.2020 06:22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.12.2020 06:22	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.12.2020 06:22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	125	%	70-135	12.12.2020 06:22		
o-Terphenyl	84-15-1	117	%	70-135	12.12.2020 06:22		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS01**
 Lab Sample Id: 680641-001

Matrix: Soil
 Date Collected: 12.09.2020 10:48

Date Received: 12.10.2020 11:57
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 17:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3144738

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.12.2020 08:15	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.12.2020 08:15	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.12.2020 08:15	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.12.2020 08:15	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.12.2020 08:15	U	1
Total Xylenes	1330-20-7	<0.002010	0.002010	mg/kg	12.12.2020 08:15	U	1
Total BTEX		<0.002010	0.002010	mg/kg	12.12.2020 08:15	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	87	%	70-130	12.12.2020 08:15	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.12.2020 08:15	



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS02**
 Lab Sample Id: 680641-002

Matrix: Soil
 Date Collected: 12.09.2020 10:54

Date Received: 12.10.2020 11:57
 Sample Depth: 0.5 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 17:30

% Moisture:
 Basis: Wet Weight

Seq Number: 3145023

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	11.3	10.1	mg/kg	12.15.2020 18:40		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	<49.9	49.9	mg/kg	12.12.2020 06:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.12.2020 06:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.12.2020 06:42	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.12.2020 06:42	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	112	%	70-135	12.12.2020 06:42		
o-Terphenyl	84-15-1	99	%	70-135	12.12.2020 06:42		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS02**
 Lab Sample Id: 680641-002

Matrix: Soil
 Date Collected: 12.09.2020 10:54

Date Received: 12.10.2020 11:57
 Sample Depth: 0.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 17:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3144738

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00201	0.00201	mg/kg	12.12.2020 08:38	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.12.2020 08:38	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.12.2020 08:38	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.12.2020 08:38	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.12.2020 08:38	U	1
Total Xylenes	1330-20-7	<0.002010	0.002010	mg/kg	12.12.2020 08:38	U	1
Total BTEX		<0.002010	0.002010	mg/kg	12.12.2020 08:38	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	88	%	70-130	12.12.2020 08:38		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.12.2020 08:38		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS03**
 Lab Sample Id: 680641-003

Matrix: Soil
 Date Collected: 12.09.2020 10:08

Date Received: 12.10.2020 11:57
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 17:30

% Moisture:
 Basis: Wet Weight

Seq Number: 3145023

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	23.7	10.1	mg/kg	12.15.2020 18:46		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	<50.1	50.1	mg/kg	12.12.2020 07:03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.12.2020 07:03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.12.2020 07:03	U	1
Total TPH	PHC635	<50.10	50.10	mg/kg	12.12.2020 07:03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	98	%	70-135	12.12.2020 07:03		
o-Terphenyl	84-15-1	113	%	70-135	12.12.2020 07:03		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS03**
 Lab Sample Id: 680641-003

Matrix: Soil
 Date Collected: 12.09.2020 10:08

Date Received: 12.10.2020 11:57
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 17:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3144738

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.12.2020 09:00	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.12.2020 09:00	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.12.2020 09:00	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.12.2020 09:00	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.12.2020 09:00	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.12.2020 09:00	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.12.2020 09:00	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	97	%	70-130	12.12.2020 09:00		
4-Bromofluorobenzene	460-00-4	92	%	70-130	12.12.2020 09:00		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS04**
 Lab Sample Id: 680641-004

Matrix: Soil
 Date Collected: 12.09.2020 10:11

Date Received: 12.10.2020 11:57
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 17:30

% Moisture:
 Basis: Wet Weight

Seq Number: 3145023

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	87.7	9.92	mg/kg	12.15.2020 18:52		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:01

% Moisture:
 Basis: Wet Weight

Seq Number: 3144877

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.14.2020 11:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	54.2	50.1	mg/kg	12.14.2020 11:18		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.14.2020 11:18	U	1
Total TPH	PHC635	54.2	50.1	mg/kg	12.14.2020 11:18		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	107	%	70-135	12.14.2020 11:18		
o-Terphenyl	84-15-1	99	%	70-135	12.14.2020 11:18		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS04**
 Lab Sample Id: 680641-004

Matrix: Soil
 Date Collected: 12.09.2020 10:11

Date Received: 12.10.2020 11:57
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:28

% Moisture:
 Basis: Wet Weight

Seq Number: 3144887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.14.2020 12:59	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.14.2020 12:59	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.14.2020 12:59	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.14.2020 12:59	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.14.2020 12:59	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.14.2020 12:59	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.14.2020 12:59	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	85	%	70-130	12.14.2020 12:59	
1,4-Difluorobenzene	540-36-3	97	%	70-130	12.14.2020 12:59	



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS05**
 Lab Sample Id: 680641-005

Matrix: Soil
 Date Collected: 12.09.2020 10:13

Date Received: 12.10.2020 11:57
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 17:30

% Moisture:
 Basis: Wet Weight

Seq Number: 3145023

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	246	9.92	mg/kg	12.15.2020 18:58		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:01

% Moisture:
 Basis: Wet Weight

Seq Number: 3144877

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.14.2020 12:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.14.2020 12:19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.14.2020 12:19	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.14.2020 12:19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	111	%	70-135	12.14.2020 12:19		
o-Terphenyl	84-15-1	112	%	70-135	12.14.2020 12:19		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS05**
 Lab Sample Id: 680641-005

Matrix: Soil
 Date Collected: 12.09.2020 10:13

Date Received: 12.10.2020 11:57
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:28

% Moisture:
 Basis: Wet Weight

Seq Number: 3144887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.14.2020 13:21	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.14.2020 13:21	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.14.2020 13:21	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.14.2020 13:21	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.14.2020 13:21	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.14.2020 13:21	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.14.2020 13:21	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.14.2020 13:21		
4-Bromofluorobenzene	460-00-4	91	%	70-130	12.14.2020 13:21		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS06**
 Lab Sample Id: 680641-006

Matrix: Soil
 Date Collected: 12.09.2020 10:15

Date Received: 12.10.2020 11:57
 Sample Depth: 1 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 17:30

% Moisture:
 Basis: Wet Weight

Seq Number: 3145023

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	42.2	9.90	mg/kg	12.15.2020 19:23		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:01

% Moisture:
 Basis: Wet Weight

Seq Number: 3144877

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.14.2020 12:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	98.3	50.3	mg/kg	12.14.2020 12:39		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.14.2020 12:39	U	1
Total TPH	PHC635	98.3	50.3	mg/kg	12.14.2020 12:39		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	117	%	70-135	12.14.2020 12:39		
o-Terphenyl	84-15-1	116	%	70-135	12.14.2020 12:39		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS06**
 Lab Sample Id: 680641-006

Matrix: Soil
 Date Collected: 12.09.2020 10:15

Date Received: 12.10.2020 11:57
 Sample Depth: 1 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:28

% Moisture:
 Basis: Wet Weight

Seq Number: 3144887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.14.2020 13:44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.14.2020 13:44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.14.2020 13:44	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.14.2020 13:44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.14.2020 13:44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.14.2020 13:44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.14.2020 13:44	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.14.2020 13:44		
4-Bromofluorobenzene	460-00-4	88	%	70-130	12.14.2020 13:44		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS07**
 Lab Sample Id: 680641-007

Matrix: Soil
 Date Collected: 12.09.2020 13:00

Date Received: 12.10.2020 11:57
 Sample Depth: 1.5 - 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 17:30

% Moisture:
 Basis: Wet Weight

Seq Number: 3145023

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	442	9.98	mg/kg	12.15.2020 19:29		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:01

% Moisture:
 Basis: Wet Weight

Seq Number: 3144877

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.14.2020 13:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	272	50.1	mg/kg	12.14.2020 13:00		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	65.0	50.1	mg/kg	12.14.2020 13:00		1
Total TPH	PHC635	337	50.1	mg/kg	12.14.2020 13:00		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	124	%	70-135	12.14.2020 13:00		
o-Terphenyl	84-15-1	122	%	70-135	12.14.2020 13:00		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS07**
 Lab Sample Id: 680641-007

Matrix: Soil
 Date Collected: 12.09.2020 13:00

Date Received: 12.10.2020 11:57
 Sample Depth: 1.5 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:28

% Moisture:
 Basis: Wet Weight

Seq Number: 3144887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.0000198	0.0000198	mg/kg	12.14.2020 14:06	U	1
Toluene	108-88-3	<0.0000198	0.0000198	mg/kg	12.14.2020 14:06	U	1
Ethylbenzene	100-41-4	<0.0000198	0.0000198	mg/kg	12.14.2020 14:06	U	1
m,p-Xylenes	179601-23-1	<0.0000396	0.0000396	mg/kg	12.14.2020 14:06	U	1
o-Xylene	95-47-6	<0.0000198	0.0000198	mg/kg	12.14.2020 14:06	U	1
Total Xylenes	1330-20-7	<0.0000198	0.0000198	mg/kg	12.14.2020 14:06	U	1
Total BTEX		<0.0000198	0.0000198	mg/kg	12.14.2020 14:06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.14.2020 14:06		
4-Bromofluorobenzene	460-00-4	89	%	70-130	12.14.2020 14:06		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS08**
 Lab Sample Id: 680641-008

Matrix: Soil
 Date Collected: 12.09.2020 13:34

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 17:30

% Moisture:
 Basis: Wet Weight

Seq Number: 3145023

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1070	9.98	mg/kg	12.15.2020 19:35		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:01

% Moisture:
 Basis: Wet Weight

Seq Number: 3144877

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.14.2020 13:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.14.2020 13:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.14.2020 13:20	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	12.14.2020 13:20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	130	%	70-135	12.14.2020 13:20		
o-Terphenyl	84-15-1	114	%	70-135	12.14.2020 13:20		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS08**
 Lab Sample Id: 680641-008

Matrix: Soil
 Date Collected: 12.09.2020 13:34

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:28

% Moisture:
 Basis: Wet Weight

Seq Number: 3144887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.14.2020 14:28	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.14.2020 14:28	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.14.2020 14:28	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.14.2020 14:28	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.14.2020 14:28	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.14.2020 14:28	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.14.2020 14:28	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	91	%	70-130	12.14.2020 14:28	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.14.2020 14:28	



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS09**
 Lab Sample Id: 680641-009

Matrix: Soil
 Date Collected: 12.09.2020 13:36

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 17:30

% Moisture:
 Basis: Wet Weight

Seq Number: 3145023

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	932	10.1	mg/kg	12.15.2020 19:41		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:01

% Moisture:
 Basis: Wet Weight

Seq Number: 3144877

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.14.2020 13:40	U	1
Diesel Range Organics (DRO)	C10C28DRO	57.2	49.9	mg/kg	12.14.2020 13:40		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.14.2020 13:40	U	1
Total TPH	PHC635	57.2	49.9	mg/kg	12.14.2020 13:40		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	106	%	70-135	12.14.2020 13:40		
o-Terphenyl	84-15-1	110	%	70-135	12.14.2020 13:40		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS09**
 Lab Sample Id: 680641-009

Matrix: Soil
 Date Collected: 12.09.2020 13:36

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:28

% Moisture:
 Basis: Wet Weight

Seq Number: 3144887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.14.2020 14:51	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.14.2020 14:51	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.14.2020 14:51	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.14.2020 14:51	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.14.2020 14:51	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.14.2020 14:51	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.14.2020 14:51	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.14.2020 14:51		
4-Bromofluorobenzene	460-00-4	93	%	70-130	12.14.2020 14:51		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS10**
 Lab Sample Id: 680641-010

Matrix: Soil
 Date Collected: 12.09.2020 13:39

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 17:30

% Moisture:
 Basis: Wet Weight

Seq Number: 3145023

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2170	50.5	mg/kg	12.15.2020 19:47		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:01

% Moisture:
 Basis: Wet Weight

Seq Number: 3144877

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.14.2020 14:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.14.2020 14:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.14.2020 14:01	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.14.2020 14:01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	109	%	70-135	12.14.2020 14:01		
o-Terphenyl	84-15-1	102	%	70-135	12.14.2020 14:01		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS10**
 Lab Sample Id: 680641-010

Matrix: Soil
 Date Collected: 12.09.2020 13:39

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:28

% Moisture:
 Basis: Wet Weight

Seq Number: 3144887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.14.2020 15:13	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.14.2020 15:13	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.14.2020 15:13	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.14.2020 15:13	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.14.2020 15:13	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.14.2020 15:13	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.14.2020 15:13	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.14.2020 15:13	
4-Bromofluorobenzene	460-00-4	88	%	70-130	12.14.2020 15:13	



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS11**
 Lab Sample Id: 680641-011

Matrix: Soil
 Date Collected: 12.09.2020 13:42

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 17:30

% Moisture:
 Basis: Wet Weight

Seq Number: 3145023

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4340	50.2	mg/kg	12.15.2020 19:53		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:01

% Moisture:
 Basis: Wet Weight

Seq Number: 3144877

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.14.2020 14:22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.14.2020 14:22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.14.2020 14:22	U	1
Total TPH	PHC635	<50.3	50.3	mg/kg	12.14.2020 14:22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	106	%	70-135	12.14.2020 14:22		
o-Terphenyl	84-15-1	118	%	70-135	12.14.2020 14:22		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS11**
 Lab Sample Id: 680641-011

Matrix: Soil
 Date Collected: 12.09.2020 13:42

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:28

% Moisture:
 Basis: Wet Weight

Seq Number: 3144887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.14.2020 15:36	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.14.2020 15:36	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.14.2020 15:36	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.14.2020 15:36	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.14.2020 15:36	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.14.2020 15:36	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.14.2020 15:36	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.14.2020 15:36	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.14.2020 15:36	



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS12**
 Lab Sample Id: 680641-012

Matrix: Soil
 Date Collected: 12.09.2020 13:44

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 17:30

% Moisture:
 Basis: Wet Weight

Seq Number: 3145023

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1710	49.9	mg/kg	12.15.2020 20:11		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:01

% Moisture:
 Basis: Wet Weight

Seq Number: 3144877

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.14.2020 14:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.14.2020 14:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.14.2020 14:42	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.14.2020 14:42	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	118	%	70-135	12.14.2020 14:42		
o-Terphenyl	84-15-1	104	%	70-135	12.14.2020 14:42		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS12**
 Lab Sample Id: 680641-012

Matrix: Soil
 Date Collected: 12.09.2020 13:44

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:28

% Moisture:
 Basis: Wet Weight

Seq Number: 3144887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.14.2020 15:58	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.14.2020 15:58	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.14.2020 15:58	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.14.2020 15:58	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.14.2020 15:58	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.14.2020 15:58	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.14.2020 15:58	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.14.2020 15:58		
4-Bromofluorobenzene	460-00-4	92	%	70-130	12.14.2020 15:58		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS13**
 Lab Sample Id: 680641-013

Matrix: Soil
 Date Collected: 12.09.2020 13:46

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 17:30

% Moisture:
 Basis: Wet Weight

Seq Number: 3145023

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1880	50.4	mg/kg	12.15.2020 20:17		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:01

% Moisture:
 Basis: Wet Weight

Seq Number: 3144877

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.14.2020 15:03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.14.2020 15:03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.14.2020 15:03	U	1
Total TPH	PHC635	<49.8	49.8	mg/kg	12.14.2020 15:03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	116	%	70-135	12.14.2020 15:03		
o-Terphenyl	84-15-1	106	%	70-135	12.14.2020 15:03		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS13**
 Lab Sample Id: 680641-013

Matrix: Soil
 Date Collected: 12.09.2020 13:46

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:28

% Moisture:
 Basis: Wet Weight

Seq Number: 3144887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.14.2020 16:20	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.14.2020 16:20	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.14.2020 16:20	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.14.2020 16:20	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.14.2020 16:20	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.14.2020 16:20	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.14.2020 16:20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.14.2020 16:20		
4-Bromofluorobenzene	460-00-4	93	%	70-130	12.14.2020 16:20		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS14**
 Lab Sample Id: 680641-014

Matrix: Soil
 Date Collected: 12.09.2020 13:48

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 17:30

% Moisture:
 Basis: Wet Weight

Seq Number: 3145023

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1160	50.3	mg/kg	12.15.2020 20:23		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:01

% Moisture:
 Basis: Wet Weight

Seq Number: 3144877

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.14.2020 15:43	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.14.2020 15:43	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.14.2020 15:43	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.14.2020 15:43	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	112	%	70-135	12.14.2020 15:43		
o-Terphenyl	84-15-1	94	%	70-135	12.14.2020 15:43		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS14**
 Lab Sample Id: 680641-014

Matrix: Soil
 Date Collected: 12.09.2020 13:48

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:28

% Moisture:
 Basis: Wet Weight

Seq Number: 3144887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.14.2020 18:23	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.14.2020 18:23	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.14.2020 18:23	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.14.2020 18:23	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.14.2020 18:23	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.14.2020 18:23	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.14.2020 18:23	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	88	%	70-130	12.14.2020 18:23	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.14.2020 18:23	



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS16**
 Lab Sample Id: 680641-015

Matrix: Soil
 Date Collected: 12.09.2020 14:42

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 17:30

% Moisture:
 Basis: Wet Weight

Seq Number: 3145023

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1200	10.0	mg/kg	12.15.2020 20:40		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:01

% Moisture:
 Basis: Wet Weight

Seq Number: 3144877

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.14.2020 16:04	U	1
Diesel Range Organics (DRO)	C10C28DRO	81.1	49.8	mg/kg	12.14.2020 16:04		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.14.2020 16:04	U	1
Total TPH	PHC635	81.1	49.8	mg/kg	12.14.2020 16:04		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	118	%	70-135	12.14.2020 16:04		
o-Terphenyl	84-15-1	112	%	70-135	12.14.2020 16:04		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS16**
 Lab Sample Id: 680641-015

Matrix: Soil
 Date Collected: 12.09.2020 14:42

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:28

% Moisture:
 Basis: Wet Weight

Seq Number: 3144887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.14.2020 18:45	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.14.2020 18:45	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.14.2020 18:45	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.14.2020 18:45	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.14.2020 18:45	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.14.2020 18:45	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.14.2020 18:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	86	%	70-130	12.14.2020 18:45	
1,4-Difluorobenzene	540-36-3	91	%	70-130	12.14.2020 18:45	



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS17**
 Lab Sample Id: 680641-016

Matrix: Soil
 Date Collected: 12.09.2020 14:44

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 17:30

% Moisture:
 Basis: Wet Weight

Seq Number: 3145023

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1090	9.94	mg/kg	12.15.2020 20:46		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:01

% Moisture:
 Basis: Wet Weight

Seq Number: 3144877

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.14.2020 16:24	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.14.2020 16:24	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.14.2020 16:24	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.14.2020 16:24	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	106	%	70-135	12.14.2020 16:24		
o-Terphenyl	84-15-1	106	%	70-135	12.14.2020 16:24		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS17**
 Lab Sample Id: 680641-016

Matrix: Soil
 Date Collected: 12.09.2020 14:44

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:28

% Moisture:
 Basis: Wet Weight

Seq Number: 3144887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.14.2020 19:08	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.14.2020 19:08	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.14.2020 19:08	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.14.2020 19:08	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.14.2020 19:08	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.14.2020 19:08	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.14.2020 19:08	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	92	%	70-130	12.14.2020 19:08		
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.14.2020 19:08		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS18**
 Lab Sample Id: 680641-017

Matrix: Soil
 Date Collected: 12.09.2020 14:47

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 17:30

% Moisture:
 Basis: Wet Weight

Seq Number: 3145023

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1510	50.1	mg/kg	12.15.2020 20:52		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:01

% Moisture:
 Basis: Wet Weight

Seq Number: 3144877

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.14.2020 16:45	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.14.2020 16:45	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.14.2020 16:45	U	1
Total TPH	PHC635	<49.9	49.9	mg/kg	12.14.2020 16:45	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	115	%	70-135	12.14.2020 16:45		
o-Terphenyl	84-15-1	108	%	70-135	12.14.2020 16:45		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS18**
 Lab Sample Id: 680641-017

Matrix: Soil
 Date Collected: 12.09.2020 14:47

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:28

% Moisture:
 Basis: Wet Weight

Seq Number: 3144887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.14.2020 19:30	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.14.2020 19:30	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.14.2020 19:30	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.14.2020 19:30	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.14.2020 19:30	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.14.2020 19:30	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.14.2020 19:30	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.14.2020 19:30	
4-Bromofluorobenzene	460-00-4	90	%	70-130	12.14.2020 19:30	



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS19**
 Lab Sample Id: 680641-018

Matrix: Soil
 Date Collected: 12.09.2020 14:50

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 17:30

% Moisture:
 Basis: Wet Weight

Seq Number: 3145023

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3860	49.7	mg/kg	12.16.2020 10:52	D	5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:01

% Moisture:
 Basis: Wet Weight

Seq Number: 3144877

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.14.2020 17:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.14.2020 17:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.14.2020 17:05	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.14.2020 17:05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	107	%	70-135	12.14.2020 17:05		
o-Terphenyl	84-15-1	104	%	70-135	12.14.2020 17:05		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS19**
 Lab Sample Id: 680641-018

Matrix: Soil
 Date Collected: 12.09.2020 14:50

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:28

% Moisture:
 Basis: Wet Weight

Seq Number: 3144887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.14.2020 19:53	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.14.2020 19:53	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.14.2020 19:53	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.14.2020 19:53	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.14.2020 19:53	U	1
Total Xylenes	1330-20-7	<0.00198	0.00198	mg/kg	12.14.2020 19:53	U	1
Total BTEX		<0.00198	0.00198	mg/kg	12.14.2020 19:53	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	92	%	70-130	12.14.2020 19:53		
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.14.2020 19:53		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS20**
 Lab Sample Id: 680641-019

Matrix: Soil
 Date Collected: 12.09.2020 14:52

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 17:30

% Moisture:
 Basis: Wet Weight

Seq Number: 3145023

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2700	49.9	mg/kg	12.15.2020 21:04		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:01

% Moisture:
 Basis: Wet Weight

Seq Number: 3144877

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.14.2020 17:25	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.14.2020 17:25	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.14.2020 17:25	U	1
Total TPH	PHC635	<50.2	50.2	mg/kg	12.14.2020 17:25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	114	%	70-135	12.14.2020 17:25		
o-Terphenyl	84-15-1	118	%	70-135	12.14.2020 17:25		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS20**
 Lab Sample Id: 680641-019

Matrix: Soil
 Date Collected: 12.09.2020 14:52

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:28

% Moisture:
 Basis: Wet Weight

Seq Number: 3144887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.14.2020 20:15	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.14.2020 20:15	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.14.2020 20:15	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.14.2020 20:15	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.14.2020 20:15	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.14.2020 20:15	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.14.2020 20:15	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	92	%	70-130	12.14.2020 20:15		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.14.2020 20:15		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS21**
 Lab Sample Id: 680641-020

Matrix: Soil
 Date Collected: 12.09.2020 14:54

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 17:30

% Moisture:
 Basis: Wet Weight

Seq Number: 3145023

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3260	49.9	mg/kg	12.15.2020 21:10		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:01

% Moisture:
 Basis: Wet Weight

Seq Number: 3144877

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.14.2020 17:46	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.14.2020 17:46	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.14.2020 17:46	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.14.2020 17:46	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	115	%	70-135	12.14.2020 17:46		
o-Terphenyl	84-15-1	98	%	70-135	12.14.2020 17:46		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS21**
 Lab Sample Id: 680641-020

Matrix: Soil
 Date Collected: 12.09.2020 14:54

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:28

% Moisture:
 Basis: Wet Weight

Seq Number: 3144887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.14.2020 20:37	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.14.2020 20:37	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.14.2020 20:37	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.14.2020 20:37	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.14.2020 20:37	U	1
Total Xylenes	1330-20-7	<0.00199	0.00199	mg/kg	12.14.2020 20:37	U	1
Total BTEX		<0.00199	0.00199	mg/kg	12.14.2020 20:37	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	87	%	70-130	12.14.2020 20:37	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.14.2020 20:37	



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS22**
 Lab Sample Id: 680641-021

Matrix: Soil
 Date Collected: 12.09.2020 14:56

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 15:41

% Moisture:
 Basis: Wet Weight

Seq Number: 3144853

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2420	49.6	mg/kg	12.15.2020 01:22		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:01

% Moisture:
 Basis: Wet Weight

Seq Number: 3144877

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.14.2020 18:06	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.14.2020 18:06	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.14.2020 18:06	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.14.2020 18:06	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	117	%	70-135	12.14.2020 18:06		
o-Terphenyl	84-15-1	105	%	70-135	12.14.2020 18:06		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS22**
 Lab Sample Id: 680641-021

Matrix: Soil
 Date Collected: 12.09.2020 14:56

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:28

% Moisture:
 Basis: Wet Weight

Seq Number: 3144887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.14.2020 21:00	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.14.2020 21:00	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.14.2020 21:00	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.14.2020 21:00	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.14.2020 21:00	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.14.2020 21:00	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.14.2020 21:00	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	87	%	70-130	12.14.2020 21:00	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.14.2020 21:00	



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS23**
 Lab Sample Id: 680641-022

Matrix: Soil
 Date Collected: 12.09.2020 15:56

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 12:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3144663

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3910	49.5	mg/kg	12.11.2020 16:24		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:01

% Moisture:
 Basis: Wet Weight

Seq Number: 3144877

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.14.2020 18:27	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.14.2020 18:27	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.14.2020 18:27	U	1
Total TPH	PHC635	<50.0	50.0	mg/kg	12.14.2020 18:27	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	131	%	70-135	12.14.2020 18:27		
o-Terphenyl	84-15-1	112	%	70-135	12.14.2020 18:27		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS23**
 Lab Sample Id: 680641-022

Matrix: Soil
 Date Collected: 12.09.2020 15:56

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:28

% Moisture:
 Basis: Wet Weight

Seq Number: 3144887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.14.2020 21:22	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.14.2020 21:22	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.14.2020 21:22	U	1
m,p-Xylenes	179601-23-1	<0.00404	0.00404	mg/kg	12.14.2020 21:22	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.14.2020 21:22	U	1
Total Xylenes	1330-20-7	<0.00202	0.00202	mg/kg	12.14.2020 21:22	U	1
Total BTEX		<0.00202	0.00202	mg/kg	12.14.2020 21:22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	89	%	70-130	12.14.2020 21:22		
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.14.2020 21:22		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS24**
 Lab Sample Id: 680641-023

Matrix: Soil
 Date Collected: 12.09.2020 16:00

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 12:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3144663

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4460	49.9	mg/kg	12.11.2020 16:39		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:01

% Moisture:
 Basis: Wet Weight

Seq Number: 3144877

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.1	50.1	mg/kg	12.14.2020 18:48	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.1	50.1	mg/kg	12.14.2020 18:48	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.1	50.1	mg/kg	12.14.2020 18:48	U	1
Total TPH	PHC635	<50.1	50.1	mg/kg	12.14.2020 18:48	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	103	%	70-135	12.14.2020 18:48		
o-Terphenyl	84-15-1	98	%	70-135	12.14.2020 18:48		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS24**
 Lab Sample Id: 680641-023

Matrix: Soil
 Date Collected: 12.09.2020 16:00

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:28

% Moisture:
 Basis: Wet Weight

Seq Number: 3144887

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.14.2020 21:44	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.14.2020 21:44	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.14.2020 21:44	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.14.2020 21:44	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.14.2020 21:44	U	1
Total Xylenes	1330-20-7	<0.00200	0.00200	mg/kg	12.14.2020 21:44	U	1
Total BTEX		<0.00200	0.00200	mg/kg	12.14.2020 21:44	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	91	%	70-130	12.14.2020 21:44	
1,4-Difluorobenzene	540-36-3	100	%	70-130	12.14.2020 21:44	



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS25**
 Lab Sample Id: 680641-024

Matrix: Soil
 Date Collected: 12.09.2020 16:02

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 12:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3144663

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1740	49.6	mg/kg	12.11.2020 16:44		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:56

% Moisture:
 Basis: Wet Weight

Seq Number: 3144731

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.12.2020 04:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.12.2020 04:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.12.2020 04:20	U	1
Total TPH	PHC635	<50.30	50.30	mg/kg	12.12.2020 04:20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	107	%	70-135	12.12.2020 04:20		
o-Terphenyl	84-15-1	99	%	70-135	12.12.2020 04:20		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS25**
 Lab Sample Id: 680641-024

Matrix: Soil
 Date Collected: 12.09.2020 16:02

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 17:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3144738

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.12.2020 09:23	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.12.2020 09:23	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.12.2020 09:23	U	1
m,p-Xylenes	179601-23-1	<0.00396	0.00396	mg/kg	12.12.2020 09:23	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.12.2020 09:23	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.12.2020 09:23	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.12.2020 09:23	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.12.2020 09:23		
4-Bromofluorobenzene	460-00-4	92	%	70-130	12.12.2020 09:23		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS26**
 Lab Sample Id: 680641-025

Matrix: Soil
 Date Collected: 12.09.2020 16:04

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 12:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3144663

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	5280	49.9	mg/kg	12.11.2020 16:59		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:56

% Moisture:
 Basis: Wet Weight

Seq Number: 3144731

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.12.2020 04:40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.12.2020 04:40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.12.2020 04:40	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.12.2020 04:40	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	112	%	70-135	12.12.2020 04:40		
o-Terphenyl	84-15-1	116	%	70-135	12.12.2020 04:40		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS26**
 Lab Sample Id: 680641-025

Matrix: Soil
 Date Collected: 12.09.2020 16:04

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 17:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3144738

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.12.2020 09:45	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.12.2020 09:45	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.12.2020 09:45	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.12.2020 09:45	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.12.2020 09:45	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.12.2020 09:45	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.12.2020 09:45	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.12.2020 09:45	
1,4-Difluorobenzene	540-36-3	98	%	70-130	12.12.2020 09:45	



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS27**
 Lab Sample Id: 680641-026

Matrix: Soil
 Date Collected: 12.09.2020 16:06

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 12:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3144663

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3190	49.8	mg/kg	12.11.2020 17:05		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:56

% Moisture:
 Basis: Wet Weight

Seq Number: 3144731

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 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	107	%	70-135	12.12.2020 05:00		
o-Terphenyl	84-15-1	101	%	70-135	12.12.2020 05:00		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS27**
 Lab Sample Id: 680641-026

Matrix: Soil
 Date Collected: 12.09.2020 16:06

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 17:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3144738

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.12.2020 10:07	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.12.2020 10:07	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.12.2020 10:07	U	1
m,p-Xylenes	179601-23-1	<0.00400	0.00400	mg/kg	12.12.2020 10:07	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.12.2020 10:07	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.12.2020 10:07	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.12.2020 10:07	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	87	%	70-130	12.12.2020 10:07		
1,4-Difluorobenzene	540-36-3	94	%	70-130	12.12.2020 10:07		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS28**
 Lab Sample Id: 680641-027

Matrix: Soil
 Date Collected: 12.09.2020 16:08

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 12:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3144663

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3640	49.9	mg/kg	12.11.2020 17:10		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:56

% Moisture:
 Basis: Wet Weight

Seq Number: 3144731

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.12.2020 05:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.12.2020 05:20	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.12.2020 05:20	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.12.2020 05:20	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	101	%	70-135	12.12.2020 05:20		
o-Terphenyl	84-15-1	106	%	70-135	12.12.2020 05:20		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS28**
 Lab Sample Id: 680641-027

Matrix: Soil
 Date Collected: 12.09.2020 16:08

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 17:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3144738

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.12.2020 10:30	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.12.2020 10:30	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.12.2020 10:30	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.12.2020 10:30	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.12.2020 10:30	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.12.2020 10:30	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.12.2020 10:30	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	94	%	70-130	12.12.2020 10:30		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.12.2020 10:30		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS29**
 Lab Sample Id: 680641-028

Matrix: Soil
 Date Collected: 12.09.2020 16:10

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 12:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3144663

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	3050	49.8	mg/kg	12.11.2020 16:13		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:56

% Moisture:
 Basis: Wet Weight

Seq Number: 3144731

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.12.2020 05:41	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.12.2020 05:41	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.12.2020 05:41	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.12.2020 05:41	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	102	%	70-135	12.12.2020 05:41		
o-Terphenyl	84-15-1	114	%	70-135	12.12.2020 05:41		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS29**
 Lab Sample Id: 680641-028

Matrix: Soil
 Date Collected: 12.09.2020 16:10

Date Received: 12.10.2020 11:57
 Sample Depth: 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 21:33	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.11.2020 21:33	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.11.2020 21:33	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.11.2020 21:33	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.11.2020 21:33	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.11.2020 21:33	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.11.2020 21:33	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.11.2020 21:33		
4-Bromofluorobenzene	460-00-4	122	%	70-130	12.11.2020 21:33		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS30**
 Lab Sample Id: 680641-029

Matrix: Soil
 Date Collected: 12.09.2020 16:12

Date Received: 12.10.2020 11:57
 Sample Depth: 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 12:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3144663

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	4750	49.8	mg/kg	12.11.2020 16:19		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: MAB

Analyst: CAC

Date Prep: 12.11.2020 17:56

% Moisture:
 Basis: Wet Weight

Seq Number: 3144731

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.12.2020 06:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.12.2020 06:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.12.2020 06:01	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.12.2020 06:01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	117	%	70-135	12.12.2020 06:01		
o-Terphenyl	84-15-1	112	%	70-135	12.12.2020 06:01		



Certificate of Analytical Results 680641

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS30**
 Lab Sample Id: 680641-029

Matrix: Soil
 Date Collected: 12.09.2020 16:12

Date Received: 12.10.2020 11:57
 Sample Depth: 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	<0.00201	0.00201	mg/kg	12.11.2020 21:55	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.11.2020 21:55	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.11.2020 21:55	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.11.2020 21:55	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.11.2020 21:55	U	1
Total Xylenes	1330-20-7	<0.002010	0.002010	mg/kg	12.11.2020 21:55	U	1
Total BTEX		<0.002010	0.002010	mg/kg	12.11.2020 21:55	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	118	%	70-130	12.11.2020 21:55		
1,4-Difluorobenzene	540-36-3	105	%	70-130	12.11.2020 21:55		



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 RDU 14

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3144663

Matrix: Solid

Prep Method: E300P

Date Prep: 12.11.2020

MB Sample Id: 7716916-1-BLK

LCS Sample Id: 7716916-1-BKS

LCSD Sample Id: 7716916-1-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	245	98	247	99	90-110	1	20	mg/kg	12.11.2020 15:02	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3144853

Matrix: Solid

Prep Method: E300P

Date Prep: 12.14.2020

MB Sample Id: 7717074-1-BLK

LCS Sample Id: 7717074-1-BKS

LCSD Sample Id: 7717074-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<10.0	250	262	105	264	106	90-110	1	20	mg/kg	12.14.2020 23:08	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3145023

Matrix: Solid

Prep Method: E300P

Date Prep: 12.14.2020

MB Sample Id: 7717076-1-BLK

LCS Sample Id: 7717076-1-BKS

LCSD Sample Id: 7717076-1-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	263	105	264	106	90-110	0	20	mg/kg	12.15.2020 18:10	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3144663

Matrix: Soil

Prep Method: E300P

Date Prep: 12.11.2020

Parent Sample Id: 680594-101

MS Sample Id: 680594-101 S

MSD Sample Id: 680594-101 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	201	185	92	200	99	90-110	8	20	mg/kg	12.11.2020 15:17	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3144663

Matrix: Soil

Prep Method: E300P

Date Prep: 12.11.2020

Parent Sample Id: 680641-022

MS Sample Id: 680641-022 S

MSD Sample Id: 680641-022 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	3910	202	4100	94	4110	99	90-110	0	20	mg/kg	12.11.2020 16:29	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3144853

Matrix: Soil

Prep Method: E300P

Date Prep: 12.14.2020

Parent Sample Id: 680980-001

MS Sample Id: 680980-001 S

MSD Sample Id: 680980-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	669	199	866	99	838	91	90-110	3	20	mg/kg	12.14.2020 23:24	

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

RDU 14

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3144853

Matrix: Soil

Prep Method: E300P

Parent Sample Id: 680980-011

MS Sample Id: 680980-011 S

Date Prep: 12.14.2020

MSD Sample Id: 680980-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	798	200	1010	106	1000	102	90-110	1	20	mg/kg	12.15.2020 00:43	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3145023

Matrix: Soil

Prep Method: E300P

Parent Sample Id: 680641-001

MS Sample Id: 680641-001 S

Date Prep: 12.14.2020

MSD Sample Id: 680641-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	<9.94	199	196	98	205	103	90-110	4	20	mg/kg	12.15.2020 18:28	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3145023

Matrix: Soil

Prep Method: E300P

Parent Sample Id: 680641-011

MS Sample Id: 680641-011 S

Date Prep: 12.14.2020

MSD Sample Id: 680641-011 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	4340	198	4520	91	4550	106	90-110	1	20	mg/kg	12.15.2020 19:59	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144745

Matrix: Solid

Prep Method: SW8015P

MB Sample Id: 7716879-1-BLK

LCS Sample Id: 7716879-1-BKS

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: 3144877

Matrix: Solid

Prep Method: SW8015P

MB Sample Id: 7716951-1-BLK

LCS Sample Id: 7716951-1-BKS

Date Prep: 12.11.2020

LCSD Sample Id: 7716951-1-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	973	97	1040	104	70-135	7	35	mg/kg	12.14.2020 10:38	
Diesel Range Organics (DRO)	<50.0	1000	970	97	1060	106	70-135	9	35	mg/kg	12.14.2020 10:38	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	130		86		108		70-135	%	12.14.2020 10:38
o-Terphenyl	126		73		112		70-135	%	12.14.2020 10:38

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



WSP USA

RDU 14

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144731

MB Sample Id: 7716950-1-BLK

Matrix: Solid

LCS Sample Id: 7716950-1-BKS

Prep Method: SW8015P

Date Prep: 12.11.2020

LCSD Sample Id: 7716950-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	922	92	913	91	70-135	1	35	mg/kg	12.11.2020 22:58	
Diesel Range Organics (DRO)	<50.0	1000	996	100	1120	112	70-135	12	35	mg/kg	12.11.2020 22:58	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	96		100		126		70-135	%	12.11.2020 22:58
o-Terphenyl	94		107		118		70-135	%	12.11.2020 22:58

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	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144877

Matrix: Solid

MB Sample Id: 7716951-1-BLK

Prep Method: SW8015P

Date Prep: 12.11.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.14.2020 10:18	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144731

Matrix: Solid

MB Sample Id: 7716950-1-BLK

Prep Method: SW8015P

Date Prep: 12.11.2020

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.11.2020 22:38	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144745

Matrix: Soil

Parent Sample Id: 680628-003

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

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

RDU 14

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144877

Parent Sample Id: 680641-004

Matrix: Soil

MS Sample Id: 680641-004 S

Prep Method: SW8015P

Date Prep: 12.11.2020

MSD Sample Id: 680641-004 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)	<49.8	995	1070	108	1120	112	70-135	5	35	mg/kg	12.14.2020 11:38	
Diesel Range Organics (DRO)	54.2	995	1080	103	1070	102	70-135	1	35	mg/kg	12.14.2020 11:38	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	99		114		70-135	%	12.14.2020 11:38
o-Terphenyl	114		108		70-135	%	12.14.2020 11:38

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144731

Parent Sample Id: 680582-001

Matrix: Soil

MS Sample Id: 680582-001 S

Prep Method: SW8015P

Date Prep: 12.11.2020

MSD Sample Id: 680582-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	999	1040	104	1110	111	70-135	7	35	mg/kg	12.11.2020 23:58	
Diesel Range Organics (DRO)	<50.0	999	1140	114	998	100	70-135	13	35	mg/kg	12.11.2020 23:58	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	98		111		70-135	%	12.11.2020 23:58
o-Terphenyl	108		116		70-135	%	12.11.2020 23:58

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144728

MB Sample Id: 7716920-1-BLK

Matrix: Solid

LCS Sample Id: 7716920-1-BKS

Prep Method: SW5035A

Date Prep: 12.11.2020

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	<0.002000	0.1000	0.09340	93	0.1011	101	70-130	8	35	mg/kg	12.11.2020 13:39	
Toluene	<0.002000	0.1000	0.08936	89	0.09281	93	70-130	4	35	mg/kg	12.11.2020 13:39	
Ethylbenzene	<0.002000	0.1000	0.09189	92	0.09935	99	71-129	8	35	mg/kg	12.11.2020 13:39	
m,p-Xylenes	<0.004000	0.2000	0.1881	94	0.2049	102	70-135	9	35	mg/kg	12.11.2020 13:39	
o-Xylene	<0.002000	0.1000	0.09449	94	0.09956	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

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

RDU 14

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144738

Matrix: Solid

Prep Method: SW5035A

Date Prep: 12.11.2020

MB Sample Id: 7716960-1-BLK

LCS Sample Id: 7716960-1-BKS

LCSD Sample Id: 7716960-1-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	0.102	102	0.0937	94	70-130	8	35	mg/kg	12.12.2020 00:27	
Toluene	<0.00200	0.100	0.0980	98	0.0917	92	70-130	7	35	mg/kg	12.12.2020 00:27	
Ethylbenzene	<0.00200	0.100	0.0906	91	0.0855	86	71-129	6	35	mg/kg	12.12.2020 00:27	
m,p-Xylenes	<0.00400	0.200	0.184	92	0.174	87	70-135	6	35	mg/kg	12.12.2020 00:27	
o-Xylene	<0.00200	0.100	0.0930	93	0.0869	87	71-133	7	35	mg/kg	12.12.2020 00:27	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	96		96		91		70-130	%	12.12.2020 00:27
4-Bromofluorobenzene	85		88		79		70-130	%	12.12.2020 00:27

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144887

Matrix: Solid

Prep Method: SW5035A

Date Prep: 12.14.2020

MB Sample Id: 7717021-1-BLK

LCS Sample Id: 7717021-1-BKS

LCSD Sample Id: 7717021-1-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	0.0932	93	0.101	101	70-130	8	35	mg/kg	12.14.2020 10:57	
Toluene	<0.00200	0.100	0.0906	91	0.0991	99	70-130	9	35	mg/kg	12.14.2020 10:57	
Ethylbenzene	<0.00200	0.100	0.0847	85	0.0933	93	71-129	10	35	mg/kg	12.14.2020 10:57	
m,p-Xylenes	<0.00400	0.200	0.174	87	0.192	96	70-135	10	35	mg/kg	12.14.2020 10:57	
o-Xylene	<0.00200	0.100	0.0857	86	0.0943	94	71-133	10	35	mg/kg	12.14.2020 10:57	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	99		93		94		70-130	%	12.14.2020 10:57
4-Bromofluorobenzene	89		85		89		70-130	%	12.14.2020 10:57

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	<0.002004	0.1000	0.09975	100	0.1027	103	70-130	3	35	mg/kg	12.11.2020 14:24	
Toluene	<0.002004	0.1000	0.09161	92	0.09711	97	70-130	6	35	mg/kg	12.11.2020 14:24	
Ethylbenzene	<0.002004	0.1000	0.09510	95	0.1035	104	71-129	8	35	mg/kg	12.11.2020 14:24	
m,p-Xylenes	<0.004008	0.2000	0.1935	97	0.2079	104	70-135	7	35	mg/kg	12.11.2020 14:24	
o-Xylene	<0.002004	0.1000	0.09440	94	0.1026	103	71-133	8	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



WSP USA

RDU 14

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144738

Parent Sample Id: 680743-011

Matrix: Soil

MS Sample Id: 680743-011 S

Prep Method: SW5035A

Date Prep: 12.11.2020

MSD Sample Id: 680743-011 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	0.0978	98	0.103	103	70-130	5	35	mg/kg	12.12.2020 01:12	
Toluene	<0.00200	0.0998	0.100	100	0.0992	99	70-130	1	35	mg/kg	12.12.2020 01:12	
Ethylbenzene	<0.00200	0.0998	0.0963	96	0.0912	91	71-129	5	35	mg/kg	12.12.2020 01:12	
m,p-Xylenes	<0.00399	0.200	0.197	99	0.185	93	70-135	6	35	mg/kg	12.12.2020 01:12	
o-Xylene	<0.00200	0.0998	0.0981	98	0.0931	93	71-133	5	35	mg/kg	12.12.2020 01:12	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	98		93		70-130	%	12.12.2020 01:12
4-Bromofluorobenzene	94		85		70-130	%	12.12.2020 01:12

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144887

Parent Sample Id: 680641-004

Matrix: Soil

MS Sample Id: 680641-004 S

Prep Method: SW5035A

Date Prep: 12.14.2020

MSD Sample Id: 680641-004 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	0.100	0.100	100	0.0961	96	70-130	4	35	mg/kg	12.14.2020 16:43	
Toluene	<0.00200	0.100	0.0951	95	0.0921	92	70-130	3	35	mg/kg	12.14.2020 16:43	
Ethylbenzene	<0.00200	0.100	0.0877	88	0.0853	85	71-129	3	35	mg/kg	12.14.2020 16:43	
m,p-Xylenes	<0.00401	0.200	0.178	89	0.174	87	70-135	2	35	mg/kg	12.14.2020 16:43	
o-Xylene	<0.00200	0.100	0.0893	89	0.0861	86	71-133	4	35	mg/kg	12.14.2020 16:43	

Surrogate

	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	95		95		70-130	%	12.14.2020 16:43
4-Bromofluorobenzene	86		86		70-130	%	12.14.2020 16:43

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



Chain of Custody

Work Order No: 680641

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 Casabad, NM (432) 704-5440
 Phoenix, AZ (480) 365-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 699-6701

www.xenco.com Page 1 of 3

Project Manager: Joseph Hernandez		Bill to: (if different)	
Company Name: WSP USA Inc.		Company Name: WSP USA Inc.	
Address: 3300 N A St		Address: 5315 Buena Vista Dr	
City, State ZIP: Midland, TX 79705		City, State ZIP: Carlsbad, NM 88220	
Phone: 281-762-2329		Email: josehernandez@wsp.com	

Project Name: RDU 14	Turn Around	Pro: Code
Project Number: TCE34824024	☒	
Project Location: Eddy County	Rush:	
Sampler's Name: Anna Byers	Due Date:	
PO #:	Quote #:	

SAMPLE RECEIPT		Temp Blank: ☒ No ☒ Yes		Wet Ice: ☒ Yes ☒ No	
Temperature (°C): 1.0/0.8		Thermometer ID: TNU-001		Correction Factor: -0.2	
Received Intact: ☒ Yes ☒ No		Cooler Custody Seals: Yes ☒ No ☒ N/A		Total Containers: 29	
Sample Custody Seals: Yes ☒ No ☒ N/A					

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST	Preservative Codes
FS01		S	12/19/20	10:48	0.5'	1	TPH (EPA 8015 Mod)	MeOH: Me
FS02			12/19/20	10:54	0.5'	1	BTEX (EPA 8021B)	None: NO
FS03			12/17/20	10:08	1'	1	Chloride (EPA 3000)	HNO3: HN
FS04			12/17/20	10:11	1'	1		H2SO4: H2
FS05			12/17/20	10:13	1'	1		HCL: HL
FS06			12/17/20	10:15	1'	1		NaOH: Na
FS07			12/18/20	13:00	1.5-4'	1		Zn Acetate+ NaOH: Zn
FS08			12/18/20	13:34	4'	1		
FS09			12/18/20	13:36	4'	1		
FS10			12/18/20	13:39	4'	1		

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

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
 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
Anna Byers	Joe Byers	12-10-20 11:52			



Chain of Custody

Work Order No:

680644

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 Casabad, NM (432) 704-5440
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 699-6701

www.xenco.com

Page 2 of 3

Project Manager:	Joseph Hernandez	Bill to: (if different)	Linda Laumbach
Company Name:	WSPUSA Inc.	Company Name:	WPR Energy
Address:	3360 N A St	Address:	5315 Buena Vista Dr.
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Casabad, NM 88022
Phone:	281-762-2329	Email:	jehernandez@wsp.com / ana.byers@wsp.com

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

Project Name:	RDU 14	Turn Around	
Project Number:	TEP34820026	Routine	☒
Project Location:	Eddy County	Rush:	
Sampler's Name:	Anna Byers	Due Date:	
PO #:		Quote #:	

SAMPLE RECEIPT	Temp Blank:	Yes	No	Wet Ice:	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			

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	ANALYSIS REQUEST	Preservative Codes	Sample Comments
FS11		S	12/8/20	1342	4'	1	TPH (EPA 8015 Mod)	MeOH: Me	
FS12			12/8/20	1344	4'	1	BTEX (EPA 8021 B)	None: NO	
FS13			12/8/20	1346	4'	1	Chloride (EPA 3000)	HNO3: HN	
FS14			12/8/20	1348	4'	1		H2SO4: H2	
FS15			12/9/20	1442	4'	1		HCL: HL	
FS16			12/9/20	1444	4'	1		NaOH: Na	
FS17			12/9/20	1444	4'	1		Zn Acetate+ NaOH: Zn	
FS18			12/9/20	1447	4'	1			
FS19			12/9/20	1450	4'	1			
FS20			12/9/20	1452	4'	1			
FS21			12/9/20	1454	4'	1			

Total 200.7 / 6010		200.8 / 6020:		8RCRA 13PPM Texas 11		Al Sb As Ba Be B Cd Ca Cr Co Cu 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 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
Anna Byers	Joe Lupton	12-10-20 1157			



Chain of Custody

Work Order No:

680641

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 Corsland, NM (432) 704-5440
 Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 689-5701

www.xenco.com

Page 3 of 3

Project Manager:	Joseph Hernandez	Bill to (if different):	Lynda Leunbael
Company Name:	WSP USA Inc.	Company Name:	WSP Energy
Address:	3300 N A St	Address:	5315 Buena Vista Dr.
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Calsbad, NM 88220
Phone:	281-702-2329	Email:	jehernandez@wsp.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:	RDU 14	Turn Around	☒	Price Code	
Project Number:	TE 031820026	Routine	☒		
Project Location:	Eddy County	Rush:			
Sampler's Name:	Anna Byers	Due Date:			
PO #:		Quote #:			

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	ANALYSIS REQUEST											Sample Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
						Number of Containers																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
						TPH	BTE	Chlor																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

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
 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
Anna Byers	Joe Laff	12-10-2015			

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: WSP USA

Date/ Time Received: 12.10.2020 11.57.00 AM

Work Order #: 680641

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : TN007

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)?	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 680280

WSP USA, Dallas, TX

Project Name: RDU 14

Project Id: TE034820026
 Contact: Joseph Hernandez
 Project Location: Eddy County, New Mexico

Date Received in Lab: Tue 12.08.2020 15:58
 Report Date: 12.28.2020 07:38
 Project Manager: Jessica Kramer

Analysis Requested	Lab Id: 680280-001 Field Id: FS15 Depth: 4.5- ft Matrix: SOIL Sampled: 12.08.2020 11:48					
BTEX by EPA 8021B	Extracted: 12.08.2020 17:29 Analyzed: 12.09.2020 05:25 Units/RL: mg/kg RL					
Benzene	<0.00201 0.00201					
Toluene	<0.00201 0.00201					
Ethylbenzene	<0.00201 0.00201					
m,p-Xylenes	<0.00402 0.00402					
o-Xylene	<0.00201 0.00201					
Total Xylenes	<0.002010 0.002010					
Total BTEX	<0.002010 0.002010					
Inorganic Anions by EPA 300	Extracted: 12.08.2020 17:10 Analyzed: 12.09.2020 11:13 Units/RL: mg/kg RL					
Chloride	1220 49.5					
TPH by SW8015 Mod	Extracted: 12.08.2020 17:00 Analyzed: 12.08.2020 21:05 Units/RL: mg/kg RL					
Gasoline Range Hydrocarbons (GRO)	<49.9 49.9					
Diesel Range Organics (DRO)	<49.9 49.9					
Motor Oil Range Hydrocarbons (MRO)	<49.9 49.9					
Total TPH	<49.90 49.90					

BRL - Below Reporting Limit

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





Analytical Report 680280

for

WSP USA

Project Manager: Joseph Hernandez

RDU 14

TE034820026

12.28.2020

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)



12.28.2020

Project Manager: **Joseph Hernandez**

WSP USA

2777 N. Stemmons Freeway, Suite 1600

Dallas, TX 75207

Reference: Eurofins Xenco, LLC Report No(s): **680280**

RDU 14

Project Address: Eddy County, New Mexico

Joseph Hernandez:

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) 680280. 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. 680280 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 680280

WSP USA, Dallas, TX

RDU 14

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
FS15	S	12.08.2020 11:48	4.5 ft	680280-001



CASE NARRATIVE

Client Name: WSP USA

Project Name: RDU 14

Project ID: TE034820026
Work Order Number(s): 680280

Report Date: 12.28.2020
Date Received: 12.08.2020

Sample receipt non conformances and comments:

V1.001 Revision - Corrected sample ID to FS15

Sample receipt non conformances and comments per sample:

None



Certificate of Analytical Results 680280

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS15**
Lab Sample Id: 680280-001

Matrix: Soil
Date Collected: 12.08.2020 11:48

Date Received: 12.08.2020 15:58
Sample Depth: 4.5 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.08.2020 17:10

% Moisture:
Basis: Wet Weight

Seq Number: 3144391

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	1220	49.5	mg/kg	12.09.2020 11:13		5

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	<49.9	49.9	mg/kg	12.08.2020 21:05	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.08.2020 21:05	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.08.2020 21:05	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.08.2020 21:05	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	114	%	70-135	12.08.2020 21:05		
o-Terphenyl	84-15-1	108	%	70-135	12.08.2020 21:05		



Certificate of Analytical Results 680280

WSP USA, Dallas, TX

RDU 14

Sample Id: **FS15**
 Lab Sample Id: 680280-001

Matrix: Soil
 Date Collected: 12.08.2020 11:48

Date Received: 12.08.2020 15:58
 Sample Depth: 4.5 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 05:25	U	1
Toluene	108-88-3	<0.00201	0.00201	mg/kg	12.09.2020 05:25	U	1
Ethylbenzene	100-41-4	<0.00201	0.00201	mg/kg	12.09.2020 05:25	U	1
m,p-Xylenes	179601-23-1	<0.00402	0.00402	mg/kg	12.09.2020 05:25	U	1
o-Xylene	95-47-6	<0.00201	0.00201	mg/kg	12.09.2020 05:25	U	1
Total Xylenes	1330-20-7	<0.002010	0.002010	mg/kg	12.09.2020 05:25	U	1
Total BTEX		<0.002010	0.002010	mg/kg	12.09.2020 05:25	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	122	%	70-130	12.09.2020 05:25		
1,4-Difluorobenzene	540-36-3	102	%	70-130	12.09.2020 05:25		



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

RDU 14

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3144391

Matrix: Solid

Prep Method: E300P

Date Prep: 12.08.2020

MB Sample Id: 7716659-1-BLK

LCS Sample Id: 7716659-1-BKS

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: Inorganic Anions by EPA 300

Seq Number: 3144391

Matrix: Soil

Prep Method: E300P

Date Prep: 12.08.2020

Parent Sample Id: 680246-021

MS Sample Id: 680246-021 S

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: Inorganic Anions by EPA 300

Seq Number: 3144391

Matrix: Soil

Prep Method: E300P

Date Prep: 12.08.2020

Parent Sample Id: 680280-001

MS Sample Id: 680280-001 S

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	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144261

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.08.2020

MB Sample Id: 7716670-1-BLK

LCS Sample Id: 7716670-1-BKS

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: 3144261

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.08.2020

MB Sample Id: 7716670-1-BLK

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



WSP USA

RDU 14

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: BTEX by EPA 8021B

Seq Number: 3144268

MB Sample Id: 7716663-1-BLK

Matrix: Solid

LCS Sample Id: 7716663-1-BKS

Prep Method: SW5035A

Date Prep: 12.08.2020

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: 3144268

Parent Sample Id: 680246-018

Matrix: Soil

MS Sample Id: 680246-018 S

Prep Method: SW5035A

Date Prep: 12.08.2020

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: 680280

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) 565-3443 Lubbock, TX (806) 794-1296 Crashpad, NM (432) 704-5440
Phoenix, AZ (480) 355-0900 Atlanta, GA (770) 449-8800 Tampa, FL (813) 620-2000 West Palm Beach, FL (561) 669-6700

www.xenoco.com

Page 1 of 1

Project Manager:		Joseph Hernandez		Bill to: (if different)		Lynza Laumbach	
Company Name:		WPS USA Inc.		Company Name:		WPS Energy	
Address:		3300 N A St		Address:			
City, State ZIP:		Midland, TX 79705		City, State ZIP:			
Phone:		(817) 372-2329		Email:		joseph.hernandez@wps.com & anna.bryce@wps.com	

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

[illegible]

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number	TPH	BTE	CHI	Sample Comments
FS13		S	12/13/24	1148	4.5'	1	X	X	X	Flash TPH only

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 77471-Hg

Notice: Signature of this document and realignment of samples constitutes a valid purchase order from client company to Xencro, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xencro 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 Xencro, A minimum charge of \$75,000 will be applied to each project and a charge of \$5 for each sample submitted to Xencro, but not analyzed. These terms will be enforced unless previously negotiated.

[illegible]

Revised Date 02/26/19 Rev. 2019.

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: WPX Energy Permian Basin, LLC

Date/ Time Received: 12.08.2020 03:58.00 PM

Work Order #: 680280

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)?	3.4	
#2 *Shipping container in good condition?	Yes	
#3 *Samples received on ice?	Yes	
#4 *Custody Seals intact on shipping container/ cooler?	Yes	
#5 Custody Seals intact on sample bottles?	Yes	
#6 *Custody Seals Signed and dated?	Yes	
#7 *Chain of Custody present?	Yes	
#8 Any missing/extra samples?	No	
#9 Chain of Custody signed when relinquished/ received?	Yes	
#10 Chain of Custody agrees with sample labels/matrix?	Yes	
#11 Container label(s) legible and intact?	Yes	
#12 Samples in proper container/ bottle?	Yes	Samples received in bulk containers.
#13 Samples properly preserved?	Yes	
#14 Sample container(s) intact?	Yes	
#15 Sufficient sample amount for indicated test(s)?	Yes	
#16 All samples received within hold time?	Yes	
#17 Subcontract of sample(s)?	No	
#18 Water VOC samples have zero headspace?	N/A	

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Cloe Clifton

Date: 12.08.2020

Checklist reviewed by:



Jessica Kramer

Date: 12.09.2020

Certificate of Analysis Summary 680640



WSP USA, Dallas, TX

Project Name: RDU 14

Project Id: TE034820026
Contact: Joseph Hernandez
Project Location: Eddy County

Date Received in Lab: Thu 12.10.2020 11:57
Report Date: 12.16.2020 12:10
Project Manager: Jessica Kramer

<i>Analysis Requested</i>	<i>Lab Id:</i>	680640-001	680640-002	680640-003	680640-004	680640-005	680640-006
	<i>Field Id:</i>	SW01	SW02	SW03	SW04	SW05	SW06
	<i>Depth:</i>	0-1.5 ft	0-4 ft	0-4 ft	0-4.5 ft	0-4.5 ft	0-4 ft
	<i>Matrix:</i>	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	<i>Sampled:</i>	12.09.2020 10:40	12.09.2020 10:27	12.09.2020 09:40	12.09.2020 11:52	12.09.2020 11:55	12.09.2020 15:08
BTEX by EPA 8021B	<i>Extracted:</i>	12.14.2020 08:24	12.14.2020 08:24	12.14.2020 08:24	12.14.2020 08:24	12.14.2020 08:24	12.14.2020 08:24
	<i>Analyzed:</i>	12.14.2020 12:54	12.14.2020 13:17	12.14.2020 13:39	12.14.2020 14:01	12.14.2020 14:24	12.14.2020 14:46
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Benzene		<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202
Toluene		<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202
Ethylbenzene		<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202
m,p-Xylenes		<0.00397 0.00397	<0.00398 0.00398	<0.00399 0.00399	<0.00397 0.00397	<0.00401 0.00401	<0.00403 0.00403
o-Xylene		<0.00198 0.00198	<0.00199 0.00199	<0.00200 0.00200	<0.00198 0.00198	<0.00200 0.00200	<0.00202 0.00202
Total Xylenes		<0.001980 0.001980	<0.001990 0.001990	<0.002000 0.002000	<0.001980 0.001980	<0.002000 0.002000	<0.002020 0.002020
Total BTEX		<0.001980 0.001980	<0.001990 0.001990	<0.002000 0.002000	<0.001980 0.001980	<0.002000 0.002000	<0.002020 0.002020
Inorganic Anions by EPA 300	<i>Extracted:</i>	12.11.2020 16:13	12.11.2020 16:13	12.11.2020 16:13	12.11.2020 16:13	12.11.2020 16:13	12.11.2020 16:13
	<i>Analyzed:</i>	12.11.2020 23:26	12.11.2020 23:41	12.11.2020 23:46	12.11.2020 23:51	12.11.2020 23:56	12.12.2020 00:12
	<i>Units/RL:</i>	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL
Chloride		141 9.88	86.8 9.96	279 10.1	897 50.4	2080 50.1	329 9.92
TPH by SW8015 Mod	<i>Extracted:</i>	12.11.2020 17:00	12.11.2020 17:00	12.11.2020 17:00	12.11.2020 17:00	12.11.2020 17:00	12.11.2020 17:00
	<i>Analyzed:</i>	12.14.2020 11:18	12.14.2020 12:19	12.14.2020 12:39	12.14.2020 13:00	12.14.2020 13:20	12.14.2020 13:40
	<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)		<50.2 50.2	<50.2 50.2	<49.8 49.8	<49.8 49.8	<49.8 49.8	<49.9 49.9
Diesel Range Organics (DRO)		<50.2 50.2	<50.2 50.2	<49.8 49.8	508 49.8	297 49.8	<49.9 49.9
Motor Oil Range Hydrocarbons (MRO)		<50.2 50.2	<50.2 50.2	<49.8 49.8	<49.8 49.8	<49.8 49.8	<49.9 49.9
Total TPH		<50.20 50.20	<50.20 50.20	<49.80 49.80	508.0 49.80	297.0 49.80	<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 680640



WSP USA, Dallas, TX

Project Name: RDU 14

Project Id: TE034820026
Contact: Joseph Hernandez
Project Location: Eddy County

Date Received in Lab: Thu 12.10.2020 11:57
Report Date: 12.16.2020 12:10
Project Manager: Jessica Kramer

Analysis Requested	Lab Id:	680640-007	680640-008	680640-009	680640-010		
	Field Id:	SW07	SW08	SW09	SW10		
	Depth:	0-4 ft	0-4 ft	0-4 ft	0-1.5 ft		
	Matrix:	SOIL	SOIL	SOIL	SOIL		
	Sampled:	12.09.2020 15:15	12.09.2020 15:10	12.09.2020 12:05	12.09.2020 10:57		
BTEX by EPA 8021B	Extracted:	12.14.2020 08:24	12.14.2020 08:24	12.14.2020 08:24	12.14.2020 08:24		
	Analyzed:	12.14.2020 15:09	12.14.2020 15:31	12.14.2020 15:53	12.14.2020 16:16		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Benzene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199		
Toluene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199		
Ethylbenzene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199		
m,p-Xylenes		<0.00401 0.00401	<0.00403 0.00403	<0.00399 0.00399	<0.00398 0.00398		
o-Xylene		<0.00200 0.00200	<0.00202 0.00202	<0.00200 0.00200	<0.00199 0.00199		
Total Xylenes		<0.002000 0.002000	<0.002020 0.002020	<0.002000 0.002000	<0.001990 0.001990		
Total BTEX		<0.002000 0.002000	<0.002020 0.002020	<0.002000 0.002000	<0.001990 0.001990		
Inorganic Anions by EPA 300	Extracted:	12.11.2020 16:13	12.11.2020 16:13	12.11.2020 16:13	12.11.2020 16:13		
	Analyzed:	12.12.2020 00:17	12.12.2020 00:22	12.12.2020 00:27	12.12.2020 00:32		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Chloride		324 9.94	32.1 9.98	201 10.0	262 10.0		
TPH by SW8015 Mod	Extracted:	12.11.2020 17:00	12.11.2020 17:00	12.11.2020 17:00	12.11.2020 17:00		
	Analyzed:	12.14.2020 14:01	12.14.2020 14:22	12.14.2020 14:42	12.14.2020 15:03		
	Units/RL:	mg/kg RL	mg/kg RL	mg/kg RL	mg/kg RL		
Gasoline Range Hydrocarbons (GRO)		<50.3 50.3	<49.8 49.8	<50.0 50.0	<50.0 50.0		
Diesel Range Organics (DRO)		<50.3 50.3	<49.8 49.8	<50.0 50.0	<50.0 50.0		
Motor Oil Range Hydrocarbons (MRO)		<50.3 50.3	<49.8 49.8	<50.0 50.0	<50.0 50.0		
Total TPH		<50.30 50.30	<49.80 49.80	<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



Analytical Report 680640

for

WSP USA

Project Manager: Joseph Hernandez

RDU 14

TE034820026

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: **Joseph Hernandez**

WSP USA

2777 N. Stemmons Freeway, Suite 1600

Dallas, TX 75207

Reference: Eurofins Xenco, LLC Report No(s): **680640**

RDU 14

Project Address: Eddy County

Joseph Hernandez:

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) 680640. 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. 680640 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 680640****WSP USA, Dallas, TX**

RDU 14

Sample Id	Matrix	Date Collected	Sample Depth	Lab Sample Id
SW01	S	12.09.2020 10:40	0 - 1.5 ft	680640-001
SW02	S	12.09.2020 10:27	0 - 4 ft	680640-002
SW03	S	12.09.2020 09:40	0 - 4 ft	680640-003
SW04	S	12.09.2020 11:52	0 - 4.5 ft	680640-004
SW05	S	12.09.2020 11:55	0 - 4.5 ft	680640-005
SW06	S	12.09.2020 15:08	0 - 4 ft	680640-006
SW07	S	12.09.2020 15:15	0 - 4 ft	680640-007
SW08	S	12.09.2020 15:10	0 - 4 ft	680640-008
SW09	S	12.09.2020 12:05	0 - 4 ft	680640-009
SW10	S	12.09.2020 10:57	0 - 1.5 ft	680640-010



CASE NARRATIVE

Client Name: WSP USA

Project Name: RDU 14

Project ID: TE034820026
Work Order Number(s): 680640

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 680640

WSP USA, Dallas, TX

RDU 14

Sample Id: **SW01**
 Lab Sample Id: 680640-001

Matrix: Soil
 Date Collected: 12.09.2020 10:40

Date Received: 12.10.2020 11:57
 Sample Depth: 0 - 1.5 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 16:13

% Moisture:
 Basis: Wet Weight

Seq Number: 3144749

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	141	9.88	mg/kg	12.11.2020 23:26		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.11.2020 17:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3144878

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.14.2020 11:18	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.14.2020 11:18	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.14.2020 11:18	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.14.2020 11:18	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	101	%	70-135	12.14.2020 11:18		
o-Terphenyl	84-15-1	109	%	70-135	12.14.2020 11:18		



Certificate of Analytical Results 680640

WSP USA, Dallas, TX

RDU 14

Sample Id: **SW01**
 Lab Sample Id: 680640-001

Matrix: Soil
 Date Collected: 12.09.2020 10:40

Date Received: 12.10.2020 11:57
 Sample Depth: 0 - 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:24

% Moisture:
 Basis: Wet Weight

Seq Number: 3144882

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.14.2020 12:54	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.14.2020 12:54	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.14.2020 12:54	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.14.2020 12:54	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.14.2020 12:54	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.14.2020 12:54	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.14.2020 12:54	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	111	%	70-130	12.14.2020 12:54		
1,4-Difluorobenzene	540-36-3	99	%	70-130	12.14.2020 12:54		



Certificate of Analytical Results 680640

WSP USA, Dallas, TX

RDU 14

Sample Id: **SW02**
 Lab Sample Id: 680640-002

Matrix: Soil
 Date Collected: 12.09.2020 10:27

Date Received: 12.10.2020 11:57
 Sample Depth: 0 - 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 16:13

% Moisture:
 Basis: Wet Weight

Seq Number: 3144749

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	86.8	9.96	mg/kg	12.11.2020 23:41		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.11.2020 17:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3144878

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.2	50.2	mg/kg	12.14.2020 12:19	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.2	50.2	mg/kg	12.14.2020 12:19	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.2	50.2	mg/kg	12.14.2020 12:19	U	1
Total TPH	PHC635	<50.20	50.20	mg/kg	12.14.2020 12:19	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	106	%	70-135	12.14.2020 12:19		
o-Terphenyl	84-15-1	114	%	70-135	12.14.2020 12:19		



Certificate of Analytical Results 680640

WSP USA, Dallas, TX

RDU 14

Sample Id: **SW02**
 Lab Sample Id: 680640-002

Matrix: Soil
 Date Collected: 12.09.2020 10:27

Date Received: 12.10.2020 11:57
 Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:24

% Moisture:
 Basis: Wet Weight

Seq Number: 3144882

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.14.2020 13:17	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.14.2020 13:17	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.14.2020 13:17	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.14.2020 13:17	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.14.2020 13:17	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.14.2020 13:17	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.14.2020 13:17	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.14.2020 13:17	
4-Bromofluorobenzene	460-00-4	119	%	70-130	12.14.2020 13:17	



Certificate of Analytical Results 680640

WSP USA, Dallas, TX

RDU 14

Sample Id: **SW03**
 Lab Sample Id: 680640-003

Matrix: Soil
 Date Collected: 12.09.2020 09:40

Date Received: 12.10.2020 11:57
 Sample Depth: 0 - 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 16:13

% Moisture:
 Basis: Wet Weight

Seq Number: 3144749

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	279	10.1	mg/kg	12.11.2020 23:46		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.11.2020 17:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3144878

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.14.2020 12:39	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.14.2020 12:39	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.14.2020 12:39	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	12.14.2020 12:39	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	108	%	70-135	12.14.2020 12:39		
o-Terphenyl	84-15-1	99	%	70-135	12.14.2020 12:39		



Certificate of Analytical Results 680640

WSP USA, Dallas, TX

RDU 14

Sample Id: **SW03**
 Lab Sample Id: 680640-003

Matrix: Soil
 Date Collected: 12.09.2020 09:40

Date Received: 12.10.2020 11:57
 Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:24

% Moisture:
 Basis: Wet Weight

Seq Number: 3144882

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.14.2020 13:39	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.14.2020 13:39	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.14.2020 13:39	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.14.2020 13:39	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.14.2020 13:39	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.14.2020 13:39	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.14.2020 13:39	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	116	%	70-130	12.14.2020 13:39	
1,4-Difluorobenzene	540-36-3	103	%	70-130	12.14.2020 13:39	



Certificate of Analytical Results 680640

WSP USA, Dallas, TX

RDU 14

Sample Id: **SW04**
Lab Sample Id: 680640-004

Matrix: Soil
Date Collected: 12.09.2020 11:52

Date Received: 12.10.2020 11:57
Sample Depth: 0 - 4.5 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 16:13

% Moisture:
Basis: Wet Weight

Seq Number: 3144749

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	897	50.4	mg/kg	12.11.2020 23:51		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.11.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144878

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.14.2020 13:00	U	1
Diesel Range Organics (DRO)	C10C28DRO	508	49.8	mg/kg	12.14.2020 13:00		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.14.2020 13:00	U	1
Total TPH	PHC635	508.0	49.80	mg/kg	12.14.2020 13:00		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	107	%	70-135	12.14.2020 13:00		
o-Terphenyl	84-15-1	101	%	70-135	12.14.2020 13:00		



Certificate of Analytical Results 680640

WSP USA, Dallas, TX

RDU 14

Sample Id: **SW04**
 Lab Sample Id: 680640-004

Matrix: Soil
 Date Collected: 12.09.2020 11:52

Date Received: 12.10.2020 11:57
 Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:24

% Moisture:
 Basis: Wet Weight

Seq Number: 3144882

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00198	0.00198	mg/kg	12.14.2020 14:01	U	1
Toluene	108-88-3	<0.00198	0.00198	mg/kg	12.14.2020 14:01	U	1
Ethylbenzene	100-41-4	<0.00198	0.00198	mg/kg	12.14.2020 14:01	U	1
m,p-Xylenes	179601-23-1	<0.00397	0.00397	mg/kg	12.14.2020 14:01	U	1
o-Xylene	95-47-6	<0.00198	0.00198	mg/kg	12.14.2020 14:01	U	1
Total Xylenes	1330-20-7	<0.001980	0.001980	mg/kg	12.14.2020 14:01	U	1
Total BTEX		<0.001980	0.001980	mg/kg	12.14.2020 14:01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.14.2020 14:01		
4-Bromofluorobenzene	460-00-4	113	%	70-130	12.14.2020 14:01		



Certificate of Analytical Results 680640

WSP USA, Dallas, TX

RDU 14

Sample Id: **SW05**
Lab Sample Id: 680640-005

Matrix: Soil
Date Collected: 12.09.2020 11:55

Date Received: 12.10.2020 11:57
Sample Depth: 0 - 4.5 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 16:13

% Moisture:
Basis: Wet Weight

Seq Number: 3144749

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	2080	50.1	mg/kg	12.11.2020 23:56		5

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.11.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144878

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.14.2020 13:20	U	1
Diesel Range Organics (DRO)	C10C28DRO	297	49.8	mg/kg	12.14.2020 13:20		1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.14.2020 13:20	U	1
Total TPH	PHC635	297.0	49.80	mg/kg	12.14.2020 13:20		1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	106	%	70-135	12.14.2020 13:20		
o-Terphenyl	84-15-1	113	%	70-135	12.14.2020 13:20		



Certificate of Analytical Results 680640

WSP USA, Dallas, TX

RDU 14

Sample Id: **SW05**
 Lab Sample Id: 680640-005

Matrix: Soil
 Date Collected: 12.09.2020 11:55

Date Received: 12.10.2020 11:57
 Sample Depth: 0 - 4.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:24

% Moisture:
 Basis: Wet Weight

Seq Number: 3144882

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.14.2020 14:24	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.14.2020 14:24	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.14.2020 14:24	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.14.2020 14:24	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.14.2020 14:24	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.14.2020 14:24	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.14.2020 14:24	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	108	%	70-130	12.14.2020 14:24	
4-Bromofluorobenzene	460-00-4	126	%	70-130	12.14.2020 14:24	



Certificate of Analytical Results 680640

WSP USA, Dallas, TX

RDU 14

Sample Id: **SW06**
Lab Sample Id: 680640-006

Matrix: Soil
Date Collected: 12.09.2020 15:08

Date Received: 12.10.2020 11:57
Sample Depth: 0 - 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 16:13

% Moisture:
Basis: Wet Weight

Seq Number: 3144749

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	329	9.92	mg/kg	12.12.2020 00:12		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.11.2020 17:00

% Moisture:
Basis: Wet Weight

Seq Number: 3144878

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.9	49.9	mg/kg	12.14.2020 13:40	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.9	49.9	mg/kg	12.14.2020 13:40	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.9	49.9	mg/kg	12.14.2020 13:40	U	1
Total TPH	PHC635	<49.90	49.90	mg/kg	12.14.2020 13:40	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	117	%	70-135	12.14.2020 13:40		
o-Terphenyl	84-15-1	103	%	70-135	12.14.2020 13:40		



Certificate of Analytical Results 680640

WSP USA, Dallas, TX

RDU 14

Sample Id: **SW06**
 Lab Sample Id: 680640-006

Matrix: Soil
 Date Collected: 12.09.2020 15:08

Date Received: 12.10.2020 11:57
 Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:24

% Moisture:
 Basis: Wet Weight

Seq Number: 3144882

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.14.2020 14:46	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.14.2020 14:46	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.14.2020 14:46	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.14.2020 14:46	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.14.2020 14:46	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.14.2020 14:46	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.14.2020 14:46	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
1,4-Difluorobenzene	540-36-3	113	%	70-130	12.14.2020 14:46	
4-Bromofluorobenzene	460-00-4	117	%	70-130	12.14.2020 14:46	



Certificate of Analytical Results 680640

WSP USA, Dallas, TX

RDU 14

Sample Id: **SW07**
 Lab Sample Id: 680640-007

Matrix: Soil
 Date Collected: 12.09.2020 15:15

Date Received: 12.10.2020 11:57
 Sample Depth: 0 - 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 16:13

% Moisture:
 Basis: Wet Weight

Seq Number: 3144749

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	324	9.94	mg/kg	12.12.2020 00:17		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.11.2020 17:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3144878

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.3	50.3	mg/kg	12.14.2020 14:01	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.3	50.3	mg/kg	12.14.2020 14:01	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.3	50.3	mg/kg	12.14.2020 14:01	U	1
Total TPH	PHC635	<50.30	50.30	mg/kg	12.14.2020 14:01	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	105	%	70-135	12.14.2020 14:01		
o-Terphenyl	84-15-1	97	%	70-135	12.14.2020 14:01		



Certificate of Analytical Results 680640

WSP USA, Dallas, TX

RDU 14

Sample Id: **SW07**
 Lab Sample Id: 680640-007

Matrix: Soil
 Date Collected: 12.09.2020 15:15

Date Received: 12.10.2020 11:57
 Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:24

% Moisture:
 Basis: Wet Weight

Seq Number: 3144882

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.14.2020 15:09	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.14.2020 15:09	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.14.2020 15:09	U	1
m,p-Xylenes	179601-23-1	<0.00401	0.00401	mg/kg	12.14.2020 15:09	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.14.2020 15:09	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.14.2020 15:09	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.14.2020 15:09	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.14.2020 15:09		
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.14.2020 15:09		



Certificate of Analytical Results 680640

WSP USA, Dallas, TX

RDU 14

Sample Id: **SW08**
 Lab Sample Id: 680640-008

Matrix: Soil
 Date Collected: 12.09.2020 15:10

Date Received: 12.10.2020 11:57
 Sample Depth: 0 - 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 16:13

% Moisture:
 Basis: Wet Weight

Seq Number: 3144749

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	32.1	9.98	mg/kg	12.12.2020 00:22		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.11.2020 17:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3144878

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<49.8	49.8	mg/kg	12.14.2020 14:22	U	1
Diesel Range Organics (DRO)	C10C28DRO	<49.8	49.8	mg/kg	12.14.2020 14:22	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<49.8	49.8	mg/kg	12.14.2020 14:22	U	1
Total TPH	PHC635	<49.80	49.80	mg/kg	12.14.2020 14:22	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	102	%	70-135	12.14.2020 14:22		
o-Terphenyl	84-15-1	119	%	70-135	12.14.2020 14:22		



Certificate of Analytical Results 680640

WSP USA, Dallas, TX

RDU 14

Sample Id: **SW08**
 Lab Sample Id: 680640-008

Matrix: Soil
 Date Collected: 12.09.2020 15:10

Date Received: 12.10.2020 11:57
 Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:24

% Moisture:
 Basis: Wet Weight

Seq Number: 3144882

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00202	0.00202	mg/kg	12.14.2020 15:31	U	1
Toluene	108-88-3	<0.00202	0.00202	mg/kg	12.14.2020 15:31	U	1
Ethylbenzene	100-41-4	<0.00202	0.00202	mg/kg	12.14.2020 15:31	U	1
m,p-Xylenes	179601-23-1	<0.00403	0.00403	mg/kg	12.14.2020 15:31	U	1
o-Xylene	95-47-6	<0.00202	0.00202	mg/kg	12.14.2020 15:31	U	1
Total Xylenes	1330-20-7	<0.002020	0.002020	mg/kg	12.14.2020 15:31	U	1
Total BTEX		<0.002020	0.002020	mg/kg	12.14.2020 15:31	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.14.2020 15:31		
4-Bromofluorobenzene	460-00-4	122	%	70-130	12.14.2020 15:31		



Certificate of Analytical Results 680640

WSP USA, Dallas, TX

RDU 14

Sample Id: **SW09**
 Lab Sample Id: 680640-009

Matrix: Soil
 Date Collected: 12.09.2020 12:05

Date Received: 12.10.2020 11:57
 Sample Depth: 0 - 4 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 16:13

% Moisture:
 Basis: Wet Weight

Seq Number: 3144749

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	201	10.0	mg/kg	12.12.2020 00:27		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.11.2020 17:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3144878

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.14.2020 14:42	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.14.2020 14:42	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.14.2020 14:42	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.14.2020 14:42	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	113	%	70-135	12.14.2020 14:42		
o-Terphenyl	84-15-1	107	%	70-135	12.14.2020 14:42		



Certificate of Analytical Results 680640

WSP USA, Dallas, TX

RDU 14

Sample Id: **SW09**
 Lab Sample Id: 680640-009

Matrix: Soil
 Date Collected: 12.09.2020 12:05

Date Received: 12.10.2020 11:57
 Sample Depth: 0 - 4 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:24

% Moisture:
 Basis: Wet Weight

Seq Number: 3144882

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00200	0.00200	mg/kg	12.14.2020 15:53	U	1
Toluene	108-88-3	<0.00200	0.00200	mg/kg	12.14.2020 15:53	U	1
Ethylbenzene	100-41-4	<0.00200	0.00200	mg/kg	12.14.2020 15:53	U	1
m,p-Xylenes	179601-23-1	<0.00399	0.00399	mg/kg	12.14.2020 15:53	U	1
o-Xylene	95-47-6	<0.00200	0.00200	mg/kg	12.14.2020 15:53	U	1
Total Xylenes	1330-20-7	<0.002000	0.002000	mg/kg	12.14.2020 15:53	U	1
Total BTEX		<0.002000	0.002000	mg/kg	12.14.2020 15:53	U	1

Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag
4-Bromofluorobenzene	460-00-4	124	%	70-130	12.14.2020 15:53	
1,4-Difluorobenzene	540-36-3	106	%	70-130	12.14.2020 15:53	



Certificate of Analytical Results 680640

WSP USA, Dallas, TX

RDU 14

Sample Id: **SW10**
 Lab Sample Id: 680640-010

Matrix: Soil
 Date Collected: 12.09.2020 10:57

Date Received: 12.10.2020 11:57
 Sample Depth: 0 - 1.5 ft

Analytical Method: Inorganic Anions by EPA 300

Prep Method: E300P

Tech: MAB

Analyst: MAB

Date Prep: 12.11.2020 16:13

% Moisture:
 Basis: Wet Weight

Seq Number: 3144749

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Chloride	16887-00-6	262	10.0	mg/kg	12.12.2020 00:32		1

Analytical Method: TPH by SW8015 Mod

Prep Method: SW8015P

Tech: CAC

Analyst: CAC

Date Prep: 12.11.2020 17:00

% Moisture:
 Basis: Wet Weight

Seq Number: 3144878

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Gasoline Range Hydrocarbons (GRO)	PHC610	<50.0	50.0	mg/kg	12.14.2020 15:03	U	1
Diesel Range Organics (DRO)	C10C28DRO	<50.0	50.0	mg/kg	12.14.2020 15:03	U	1
Motor Oil Range Hydrocarbons (MRO)	PHCG2835	<50.0	50.0	mg/kg	12.14.2020 15:03	U	1
Total TPH	PHC635	<50.00	50.00	mg/kg	12.14.2020 15:03	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
1-Chlorooctane	111-85-3	114	%	70-135	12.14.2020 15:03		
o-Terphenyl	84-15-1	103	%	70-135	12.14.2020 15:03		



Certificate of Analytical Results 680640

WSP USA, Dallas, TX

RDU 14

Sample Id: **SW10**
 Lab Sample Id: 680640-010

Matrix: Soil
 Date Collected: 12.09.2020 10:57

Date Received: 12.10.2020 11:57
 Sample Depth: 0 - 1.5 ft

Analytical Method: BTEX by EPA 8021B

Prep Method: SW5035A

Tech: MAB

Analyst: MAB

Date Prep: 12.14.2020 08:24

% Moisture:
 Basis: Wet Weight

Seq Number: 3144882

Parameter	Cas Number	Result	RL	Units	Analysis Date	Flag	Dil
Benzene	71-43-2	<0.00199	0.00199	mg/kg	12.14.2020 16:16	U	1
Toluene	108-88-3	<0.00199	0.00199	mg/kg	12.14.2020 16:16	U	1
Ethylbenzene	100-41-4	<0.00199	0.00199	mg/kg	12.14.2020 16:16	U	1
m,p-Xylenes	179601-23-1	<0.00398	0.00398	mg/kg	12.14.2020 16:16	U	1
o-Xylene	95-47-6	<0.00199	0.00199	mg/kg	12.14.2020 16:16	U	1
Total Xylenes	1330-20-7	<0.001990	0.001990	mg/kg	12.14.2020 16:16	U	1
Total BTEX		<0.001990	0.001990	mg/kg	12.14.2020 16:16	U	1
Surrogate	Cas Number	% Recovery	Units	Limits	Analysis Date	Flag	
4-Bromofluorobenzene	460-00-4	121	%	70-130	12.14.2020 16:16		
1,4-Difluorobenzene	540-36-3	104	%	70-130	12.14.2020 16:16		



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

RDU 14

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3144749

Matrix: Solid

Prep Method: E300P

Date Prep: 12.11.2020

MB Sample Id: 7716954-1-BLK

LCS Sample Id: 7716954-1-BKS

LCSD Sample Id: 7716954-1-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	245	98	90-110	1	20	mg/kg	12.11.2020 23:16	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3144749

Matrix: Soil

Prep Method: E300P

Date Prep: 12.11.2020

Parent Sample Id: 680640-001

MS Sample Id: 680640-001 S

MSD Sample Id: 680640-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	141	202	322	90	326	93	90-110	1	20	mg/kg	12.11.2020 23:31	

Analytical Method: Inorganic Anions by EPA 300

Seq Number: 3144749

Matrix: Soil

Prep Method: E300P

Date Prep: 12.11.2020

Parent Sample Id: 680743-041

MS Sample Id: 680743-041 S

MSD Sample Id: 680743-041 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Chloride	200	199	380	90	380	90	90-110	0	20	mg/kg	12.12.2020 00:42	

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144878

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.11.2020

MB Sample Id: 7716952-1-BLK

LCS Sample Id: 7716952-1-BKS

LCSD Sample Id: 7716952-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<50.0	1000	1080	108	1160	116	70-135	7	35	mg/kg	12.14.2020 10:38	
Diesel Range Organics (DRO)	<50.0	1000	1140	114	1110	111	70-135	3	35	mg/kg	12.14.2020 10:38	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	114		105		103		70-135	%	12.14.2020 10:38
o-Terphenyl	105		113		105		70-135	%	12.14.2020 10:38

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144878

Matrix: Solid

Prep Method: SW8015P

Date Prep: 12.11.2020

MB Sample Id: 7716952-1-BLK

Parameter	MB Result	Units	Analysis Date	Flag
Motor Oil Range Hydrocarbons (MRO)	<50.0	mg/kg	12.14.2020 10:18	

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

RDU 14

Analytical Method: TPH by SW8015 Mod

Seq Number: 3144878

Parent Sample Id: 680640-001

Matrix: Soil

MS Sample Id: 680640-001 S

Prep Method: SW8015P

Date Prep: 12.11.2020

MSD Sample Id: 680640-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	%RPD	RPD Limit	Units	Analysis Date	Flag
Gasoline Range Hydrocarbons (GRO)	<49.9	997	989	99	1070	107	70-135	8	35	mg/kg	12.14.2020 11:38	
Diesel Range Organics (DRO)	<49.9	997	1110	111	994	100	70-135	11	35	mg/kg	12.14.2020 11:38	

Surrogate	MS %Rec	MS Flag	MSD %Rec	MSD Flag	Limits	Units	Analysis Date
1-Chlorooctane	123		104		70-135	%	12.14.2020 11:38
o-Terphenyl	115		105		70-135	%	12.14.2020 11:38

Analytical Method: BTEX by EPA 8021B

Seq Number: 3144882

MB Sample Id: 7717019-1-BLK

Matrix: Solid

LCS Sample Id: 7717019-1-BKS

Prep Method: SW5035A

Date Prep: 12.14.2020

LCSD Sample Id: 7717019-1-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	0.0933	93	0.0955	96	70-130	2	35	mg/kg	12.14.2020 10:42	
Toluene	<0.00200	0.100	0.0895	90	0.0913	91	70-130	2	35	mg/kg	12.14.2020 10:42	
Ethylbenzene	<0.00200	0.100	0.0960	96	0.0978	98	71-129	2	35	mg/kg	12.14.2020 10:42	
m,p-Xylenes	<0.00400	0.200	0.194	97	0.203	102	70-135	5	35	mg/kg	12.14.2020 10:42	
o-Xylene	<0.00200	0.100	0.0942	94	0.0998	100	71-133	6	35	mg/kg	12.14.2020 10:42	

Surrogate	MB %Rec	MB Flag	LCS %Rec	LCS Flag	LCSD %Rec	LCSD Flag	Limits	Units	Analysis Date
1,4-Difluorobenzene	106		99		99		70-130	%	12.14.2020 10:42
4-Bromofluorobenzene	115		110		109		70-130	%	12.14.2020 10:42

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. 680640

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 West Palm Beach, FL (561) 689-6701

www.xenco.com

Page 1 of 1

Project Manager:	Joseph Hernandez	Bill to: (if different)	Lynda Launback
Company Name:	WSP USA Inc.	Company Name:	WSP Energy
Address:	3300 N A St	Address:	5315 Buena Vista Dr.
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	281-702-2329	Email:	joe.hernandez@wsp.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:	RDV 14	Tun Around
Project Number:	TEP34820026	Routine
Project Location:	Faddy County	Rush:
Sampler's Name:	Anna Byers	Due Date:
PO #:		Quote #:

SAMPLE RECEIPT	Temp Blank:	Yes ☒ No ☐	Wet Ice:	Yes ☒ No ☐
Temperature (°C):	1.0/0.8	Thermometer ID	T-1014-001	
Received Intact:	Yes ☒ No ☐	Correction Factor:	-0.2	
Cooler Custody Seals:	Yes ☒ No ☐	Total Containers:	16	
Sample Custody Seals:	Yes ☒ No ☐			

Lab ID	Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015 mod)	BTEX (EPA 8021 B)	Chloride (EPA 8000)	ANALYSIS REQUEST	Preservative Codes	Sample Comments
SW01		S	12/9/24	10:40	0-1.5'	1						
SW02			12/9/24	10:27	0-4'	1						
SW03			12/9/24	09:40	0-4'	1						
SW04			12/8/24	11:52	0-4.5'	1						
SW05			12/8/24	11:55	0-4.5'	1						
SW06			12/9/24	15:08	0-4'	1						
SW07			12/9/24	15:15	0-4'	1						
SW08			12/9/24	15:10	0-4'	1						
SW09			12/9/24	12:05	0-4'	1						
SW10			12/9/24	10:57	0-1.5'	1						

Total 200.7 / 6010 200.8 / 6020:

Circle Method(s) and Metal(s) to be analyzed

8RCRA 13PPM Texas 11 A 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

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
Anna Byers	Joe Hernandez	12-10-20 11:57 ²			

Eurofins Xenco, LLC

Prelogin/Nonconformance Report- Sample Log-In

Client: WSP USA

Date/ Time Received: 12.10.2020 11.57.00 AM

Work Order #: 680640

Acceptable Temperature Range: 0 - 6 degC

Air and Metal samples Acceptable Range: Ambient

Temperature Measuring device used : TNM 007

Sample Receipt Checklist

Comments

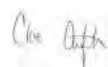
#1 *Temperature of cooler(s)?	.8
#2 *Shipping container in good condition?	Yes
#3 *Samples received on ice?	Yes
#4 *Custody Seals intact on shipping container/ cooler?	Yes
#5 Custody Seals intact on sample bottles?	Yes
#6 *Custody Seals Signed and dated?	Yes
#7 *Chain of Custody present?	Yes
#8 Any missing/extra 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)?	N/A
#18 Water VOC samples have zero headspace?	N/A

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

Analyst:

PH Device/Lot#:

Checklist completed by:



Cloe Clifton

Date: 12.11.2020

Checklist reviewed by:



Jessica Kramer

Date: 12.15.2020



Environment Testing America

ANALYTICAL REPORT

Eurofins Carlsbad
1089 N Canal St.
Carlsbad, NM 88220
Tel: (575)988-3199

Laboratory Job ID: 890-2557-1

Laboratory Sample Delivery Group: 03A1987035

Client Project/Site: RDU 14

For:

Ensolum
705 W. Wadley
Suite 210
Midland, Texas 79701

Attn: Joseph Hernandez

Authorized for release by:

7/21/2022 8:07:50 AM

Jessica Kramer, Project Manager
(432)704-5440

Jessica.Kramer@et.eurofinsus.com

LINKS

Review your project
results through



Have a Question?



Visit us at:

www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Ensolum
Project/Site: RDU 14

Laboratory Job ID: 890-2557-1
SDG: 03A1987035

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Client Sample Results	5
Surrogate Summary	8
QC Sample Results	9
QC Association Summary	13
Lab Chronicle	15
Certification Summary	16
Method Summary	17
Sample Summary	18
Chain of Custody	19
Receipt Checklists	20

1
2
3
4
5
6
7
8
9
10
11
12
13
14

Definitions/Glossary

Client: Ensolum
Project/Site: RDU 14

Job ID: 890-2557-1
SDG: 03A1987035

Qualifiers

GC VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Ensolum
Project/Site: RDU 14

Job ID: 890-2557-1
SDG: 03A1987035

Job ID: 890-2557-1

Laboratory: Eurofins Carlsbad

Narrative

Job Narrative
890-2557-1

Receipt

The samples were received on 7/13/2022 2:55 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.6°C

GC VOA

Method 8021B: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for preparation batch 880-29817 and analytical batch 880-30096 was outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample / laboratory control sample duplicate (LCS/LCSD) precision was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) precision for preparation batch 880-29867 and analytical batch 880-29786 was outside control limits. Sample non-homogeneity is suspected.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

HPLC/IC

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

1
2
3
4
5
6
7
8
9
10
11
12
13
14

Client Sample Results

Client: Ensolum
Project/Site: RDU 14

Job ID: 890-2557-1
SDG: 03A1987035

Client Sample ID: FS07

Lab Sample ID: 890-2557-1

Date Collected: 07/13/22 10:20

Matrix: Solid

Date Received: 07/13/22 14:55

Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		07/15/22 09:11	07/20/22 19:53	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/15/22 09:11	07/20/22 19:53	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		07/15/22 09:11	07/20/22 19:53	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		07/15/22 09:11	07/20/22 19:53	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/15/22 09:11	07/20/22 19:53	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		07/15/22 09:11	07/20/22 19:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		70 - 130	07/15/22 09:11	07/20/22 19:53	1
1,4-Difluorobenzene (Surr)	97		70 - 130	07/15/22 09:11	07/20/22 19:53	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			07/21/22 08:55	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			07/18/22 09:00	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	50.0		mg/Kg		07/15/22 14:19	07/15/22 21:32	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/15/22 14:19	07/15/22 21:32	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/15/22 14:19	07/15/22 21:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	91		70 - 130	07/15/22 14:19	07/15/22 21:32	1
o-Terphenyl	103		70 - 130	07/15/22 14:19	07/15/22 21:32	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1130		5.02		mg/Kg			07/16/22 19:42	1

Client Sample ID: SW11

Lab Sample ID: 890-2557-2

Date Collected: 07/13/22 10:25

Matrix: Solid

Date Received: 07/13/22 14:55

Sample Depth: 0 - 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/15/22 09:11	07/20/22 20:14	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/15/22 09:11	07/20/22 20:14	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/15/22 09:11	07/20/22 20:14	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		07/15/22 09:11	07/20/22 20:14	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/15/22 09:11	07/20/22 20:14	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		07/15/22 09:11	07/20/22 20:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	117		70 - 130	07/15/22 09:11	07/20/22 20:14	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: RDU 14

Job ID: 890-2557-1
SDG: 03A1987035

Client Sample ID: SW11

Lab Sample ID: 890-2557-2

Date Collected: 07/13/22 10:25

Matrix: Solid

Date Received: 07/13/22 14:55

Sample Depth: 0 - 4

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	102		70 - 130	07/15/22 09:11	07/20/22 20:14	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			07/21/22 08:55	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	63.3		49.9		mg/Kg			07/18/22 09:00	1

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	49.9		mg/Kg		07/15/22 14:19	07/15/22 22:36	1
Diesel Range Organics (Over C10-C28)	63.3		49.9		mg/Kg		07/15/22 14:19	07/15/22 22:36	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		07/15/22 14:19	07/15/22 22:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	95		70 - 130				07/15/22 14:19	07/15/22 22:36	1
o-Terphenyl	110		70 - 130				07/15/22 14:19	07/15/22 22:36	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	52.4		5.02		mg/Kg			07/16/22 19:52	1

Client Sample ID: SW12

Lab Sample ID: 890-2557-3

Date Collected: 07/13/22 10:30

Matrix: Solid

Date Received: 07/13/22 14:55

Sample Depth: 0 - 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		07/15/22 09:11	07/20/22 20:34	1
Toluene	<0.00202	U	0.00202		mg/Kg		07/15/22 09:11	07/20/22 20:34	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		07/15/22 09:11	07/20/22 20:34	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		07/15/22 09:11	07/20/22 20:34	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		07/15/22 09:11	07/20/22 20:34	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		07/15/22 09:11	07/20/22 20:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	74		70 - 130	07/15/22 09:11	07/20/22 20:34	1
1,4-Difluorobenzene (Surr)	89		70 - 130	07/15/22 09:11	07/20/22 20:34	1

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			07/21/22 08:55	1

Method: 8015 NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	59.2		50.0		mg/Kg			07/18/22 09:00	1

Eurofins Carlsbad

Client Sample Results

Client: Ensolum
Project/Site: RDU 14

Job ID: 890-2557-1
SDG: 03A1987035

Client Sample ID: SW12

Lab Sample ID: 890-2557-3

Date Collected: 07/13/22 10:30

Matrix: Solid

Date Received: 07/13/22 14:55

Sample Depth: 0 - 4

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/15/22 14:19	07/15/22 22:57	1
Diesel Range Organics (Over C10-C28)	59.2		50.0		mg/Kg		07/15/22 14:19	07/15/22 22:57	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/15/22 14:19	07/15/22 22:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1-Chlorooctane	93		70 - 130				07/15/22 14:19	07/15/22 22:57	1
o-Terphenyl	108		70 - 130				07/15/22 14:19	07/15/22 22:57	1

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	46.8		5.02		mg/Kg			07/16/22 20:01	1

Surrogate Summary

Client: Ensolum
Project/Site: RDU 14

Job ID: 890-2557-1
SDG: 03A1987035

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-2539-A-1-E MS	Matrix Spike	90	95
890-2539-A-1-F MSD	Matrix Spike Duplicate	106	89
890-2557-1	FS07	102	97
890-2557-2	SW11	117	102
890-2557-3	SW12	74	89
LCS 880-29817/1-A	Lab Control Sample	109	97
LCSD 880-29817/2-A	Lab Control Sample Dup	101	95
MB 880-29817/5-A	Method Blank	98	96
Surrogate Legend			
BFB = 4-Bromofluorobenzene (Surr)			
DFBZ = 1,4-Difluorobenzene (Surr)			

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
890-2557-1	FS07	91	103
890-2557-1 MS	FS07	82	90
890-2557-1 MSD	FS07	83	91
890-2557-2	SW11	95	110
890-2557-3	SW12	93	108
LCS 880-29867/2-A	Lab Control Sample	111	127
LCSD 880-29867/3-A	Lab Control Sample Dup	93	104
MB 880-29867/1-A	Method Blank	101	121
Surrogate Legend			
1CO = 1-Chlorooctane			
OTPH = o-Terphenyl			

QC Sample Results

Client: Ensolum
Project/Site: RDU 14

Job ID: 890-2557-1
SDG: 03A1987035

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-29817/5-A

Matrix: Solid

Analysis Batch: 30096

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 29817

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		07/15/22 09:11	07/20/22 12:46	1
Toluene	<0.00200	U	0.00200		mg/Kg		07/15/22 09:11	07/20/22 12:46	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		07/15/22 09:11	07/20/22 12:46	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		07/15/22 09:11	07/20/22 12:46	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		07/15/22 09:11	07/20/22 12:46	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		07/15/22 09:11	07/20/22 12:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		70 - 130	07/15/22 09:11	07/20/22 12:46	1
1,4-Difluorobenzene (Surr)	96		70 - 130	07/15/22 09:11	07/20/22 12:46	1

Lab Sample ID: LCS 880-29817/1-A

Matrix: Solid

Analysis Batch: 30096

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 29817

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	0.100	0.1048		mg/Kg		105	70 - 130
Toluene	0.100	0.1037		mg/Kg		104	70 - 130
Ethylbenzene	0.100	0.1069		mg/Kg		107	70 - 130
m-Xylene & p-Xylene	0.200	0.2278		mg/Kg		114	70 - 130
o-Xylene	0.100	0.1203		mg/Kg		120	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	109		70 - 130
1,4-Difluorobenzene (Surr)	97		70 - 130

Lab Sample ID: LCSD 880-29817/2-A

Matrix: Solid

Analysis Batch: 30096

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 29817

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	0.100	0.09444		mg/Kg		94	70 - 130	10	35
Toluene	0.100	0.09316		mg/Kg		93	70 - 130	11	35
Ethylbenzene	0.100	0.09138		mg/Kg		91	70 - 130	16	35
m-Xylene & p-Xylene	0.200	0.1945		mg/Kg		97	70 - 130	16	35
o-Xylene	0.100	0.1025		mg/Kg		103	70 - 130	16	35

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

Lab Sample ID: 890-2539-A-1-E MS

Matrix: Solid

Analysis Batch: 30096

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 29817

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	<0.00201	U F1	0.0998	0.02974	F1	mg/Kg		29	70 - 130
Toluene	0.0164	F1	0.0998	0.03203	F1	mg/Kg		16	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: RDU 14

Job ID: 890-2557-1
SDG: 03A1987035

Method: 8021B - Volatile Organic Compounds (GC) (Continued)

Lab Sample ID: 890-2539-A-1-E MS

Matrix: Solid

Analysis Batch: 30096

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 29817

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylbenzene	0.0194	F1	0.0998	0.03403	F1	mg/Kg		15	70 - 130
m-Xylene & p-Xylene	0.0239	F1	0.200	0.06705	F1	mg/Kg		22	70 - 130
o-Xylene	0.00435	F1	0.0998	0.03828	F1	mg/Kg		34	70 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		70 - 130
1,4-Difluorobenzene (Surr)	95		70 - 130

Lab Sample ID: 890-2539-A-1-F MSD

Matrix: Solid

Analysis Batch: 30096

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 29817

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Benzene	<0.00201	U F1	0.100	0.02922	F1	mg/Kg		29	70 - 130	2	35
Toluene	0.0164	F1	0.100	0.03409	F1	mg/Kg		18	70 - 130	6	35
Ethylbenzene	0.0194	F1	0.100	0.03490	F1	mg/Kg		15	70 - 130	3	35
m-Xylene & p-Xylene	0.0239	F1	0.201	0.07730	F1	mg/Kg		27	70 - 130	14	35
o-Xylene	0.00435	F1	0.100	0.04542	F1	mg/Kg		41	70 - 130	17	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	106		70 - 130
1,4-Difluorobenzene (Surr)	89		70 - 130

Method: 8015B NM - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 880-29867/1-A

Matrix: Solid

Analysis Batch: 29786

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 29867

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		07/15/22 14:19	07/15/22 20:28	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		07/15/22 14:19	07/15/22 20:28	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		07/15/22 14:19	07/15/22 20:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	101		70 - 130	07/15/22 14:19	07/15/22 20:28	1
o-Terphenyl	121		70 - 130	07/15/22 14:19	07/15/22 20:28	1

Lab Sample ID: LCS 880-29867/2-A

Matrix: Solid

Analysis Batch: 29786

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 29867

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	1000	976.0		mg/Kg		98	70 - 130
Diesel Range Organics (Over C10-C28)	1000	996.5		mg/Kg		100	70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: RDU 14

Job ID: 890-2557-1
SDG: 03A1987035

Method: 8015B NM - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 880-29867/2-A

Matrix: Solid

Analysis Batch: 29786

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 29867

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	111		70 - 130
o-Terphenyl	127		70 - 130

Lab Sample ID: LCSD 880-29867/3-A

Matrix: Solid

Analysis Batch: 29786

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 29867

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	1000	997.8		mg/Kg		100	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	1000	867.3		mg/Kg		87	70 - 130	14	20

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	93		70 - 130
o-Terphenyl	104		70 - 130

Lab Sample ID: 890-2557-1 MS

Matrix: Solid

Analysis Batch: 29786

Client Sample ID: FS07

Prep Type: Total/NA

Prep Batch: 29867

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	1000	1156		mg/Kg		116	70 - 130
Diesel Range Organics (Over C10-C28)	<50.0	U	1000	765.6		mg/Kg		72	70 - 130

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	82		70 - 130
o-Terphenyl	90		70 - 130

Lab Sample ID: 890-2557-1 MSD

Matrix: Solid

Analysis Batch: 29786

Client Sample ID: FS07

Prep Type: Total/NA

Prep Batch: 29867

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<50.0	U F2	999	866.1	F2	mg/Kg		87	70 - 130	29	20
Diesel Range Organics (Over C10-C28)	<50.0	U	999	773.9		mg/Kg		73	70 - 130	1	20

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1-Chlorooctane	83		70 - 130
o-Terphenyl	91		70 - 130

Eurofins Carlsbad

QC Sample Results

Client: Ensolum
Project/Site: RDU 14

Job ID: 890-2557-1
SDG: 03A1987035

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-29660/1-A

Matrix: Solid

Analysis Batch: 29862

Client Sample ID: Method Blank

Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			07/16/22 14:53	1

Lab Sample ID: LCS 880-29660/2-A

Matrix: Solid

Analysis Batch: 29862

Client Sample ID: Lab Control Sample

Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	250	264.9		mg/Kg		106	90 - 110

Lab Sample ID: LCSD 880-29660/3-A

Matrix: Solid

Analysis Batch: 29862

Client Sample ID: Lab Control Sample Dup

Prep Type: Soluble

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	250	264.8		mg/Kg		106	90 - 110	0	20

Lab Sample ID: 880-16876-A-3-B MS

Matrix: Solid

Analysis Batch: 29862

Client Sample ID: Matrix Spike

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	9.93		250	276.3		mg/Kg		107	90 - 110

Lab Sample ID: 880-16876-A-3-C MSD

Matrix: Solid

Analysis Batch: 29862

Client Sample ID: Matrix Spike Duplicate

Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chloride	9.93		250	276.0		mg/Kg		106	90 - 110	0	20

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: RDU 14

Job ID: 890-2557-1
SDG: 03A1987035

GC VOA

Prep Batch: 29817

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2557-1	FS07	Total/NA	Solid	5035	
890-2557-2	SW11	Total/NA	Solid	5035	
890-2557-3	SW12	Total/NA	Solid	5035	
MB 880-29817/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-29817/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-29817/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-2539-A-1-E MS	Matrix Spike	Total/NA	Solid	5035	
890-2539-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 30096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2557-1	FS07	Total/NA	Solid	8021B	29817
890-2557-2	SW11	Total/NA	Solid	8021B	29817
890-2557-3	SW12	Total/NA	Solid	8021B	29817
MB 880-29817/5-A	Method Blank	Total/NA	Solid	8021B	29817
LCS 880-29817/1-A	Lab Control Sample	Total/NA	Solid	8021B	29817
LCSD 880-29817/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	29817
890-2539-A-1-E MS	Matrix Spike	Total/NA	Solid	8021B	29817
890-2539-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	29817

Analysis Batch: 30198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2557-1	FS07	Total/NA	Solid	Total BTEX	
890-2557-2	SW11	Total/NA	Solid	Total BTEX	
890-2557-3	SW12	Total/NA	Solid	Total BTEX	

GC Semi VOA

Analysis Batch: 29786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2557-1	FS07	Total/NA	Solid	8015B NM	29867
890-2557-2	SW11	Total/NA	Solid	8015B NM	29867
890-2557-3	SW12	Total/NA	Solid	8015B NM	29867
MB 880-29867/1-A	Method Blank	Total/NA	Solid	8015B NM	29867
LCS 880-29867/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	29867
LCSD 880-29867/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	29867
890-2557-1 MS	FS07	Total/NA	Solid	8015B NM	29867
890-2557-1 MSD	FS07	Total/NA	Solid	8015B NM	29867

Prep Batch: 29867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2557-1	FS07	Total/NA	Solid	8015NM Prep	
890-2557-2	SW11	Total/NA	Solid	8015NM Prep	
890-2557-3	SW12	Total/NA	Solid	8015NM Prep	
MB 880-29867/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-29867/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-29867/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-2557-1 MS	FS07	Total/NA	Solid	8015NM Prep	
890-2557-1 MSD	FS07	Total/NA	Solid	8015NM Prep	

Eurofins Carlsbad

QC Association Summary

Client: Ensolum
Project/Site: RDU 14

Job ID: 890-2557-1
SDG: 03A1987035

GC Semi VOA

Analysis Batch: 29905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2557-1	FS07	Total/NA	Solid	8015 NM	
890-2557-2	SW11	Total/NA	Solid	8015 NM	
890-2557-3	SW12	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 29660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2557-1	FS07	Soluble	Solid	DI Leach	
890-2557-2	SW11	Soluble	Solid	DI Leach	
890-2557-3	SW12	Soluble	Solid	DI Leach	
MB 880-29660/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-29660/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-29660/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-16876-A-3-B MS	Matrix Spike	Soluble	Solid	DI Leach	
880-16876-A-3-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 29862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-2557-1	FS07	Soluble	Solid	300.0	29660
890-2557-2	SW11	Soluble	Solid	300.0	29660
890-2557-3	SW12	Soluble	Solid	300.0	29660
MB 880-29660/1-A	Method Blank	Soluble	Solid	300.0	29660
LCS 880-29660/2-A	Lab Control Sample	Soluble	Solid	300.0	29660
LCSD 880-29660/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	29660
880-16876-A-3-B MS	Matrix Spike	Soluble	Solid	300.0	29660
880-16876-A-3-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	29660

Lab Chronicle

Client: Ensolum
Project/Site: RDU 14

Job ID: 890-2557-1
SDG: 03A1987035

Client Sample ID: FS07

Lab Sample ID: 890-2557-1

Date Collected: 07/13/22 10:20

Matrix: Solid

Date Received: 07/13/22 14:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	29817	07/15/22 09:11	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30096	07/20/22 19:53	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30198	07/21/22 08:55	SM	XEN MID
Total/NA	Analysis	8015 NM		1			29905	07/18/22 09:00	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	29867	07/15/22 14:19	DM	XEN MID
Total/NA	Analysis	8015B NM		1			29786	07/15/22 21:32	SM	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	29660	07/15/22 12:07	SMC	XEN MID
Soluble	Analysis	300.0		1			29862	07/16/22 19:42	CH	XEN MID

Client Sample ID: SW11

Lab Sample ID: 890-2557-2

Date Collected: 07/13/22 10:25

Matrix: Solid

Date Received: 07/13/22 14:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.01 g	5 mL	29817	07/15/22 09:11	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30096	07/20/22 20:14	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30198	07/21/22 08:55	SM	XEN MID
Total/NA	Analysis	8015 NM		1			29905	07/18/22 09:00	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.02 g	10 mL	29867	07/15/22 14:19	DM	XEN MID
Total/NA	Analysis	8015B NM		1			29786	07/15/22 22:36	SM	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	29660	07/15/22 12:07	SMC	XEN MID
Soluble	Analysis	300.0		1			29862	07/16/22 19:52	CH	XEN MID

Client Sample ID: SW12

Lab Sample ID: 890-2557-3

Date Collected: 07/13/22 10:30

Matrix: Solid

Date Received: 07/13/22 14:55

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.95 g	5 mL	29817	07/15/22 09:11	MR	XEN MID
Total/NA	Analysis	8021B		1	5 mL	5 mL	30096	07/20/22 20:34	MR	XEN MID
Total/NA	Analysis	Total BTEX		1			30198	07/21/22 08:55	SM	XEN MID
Total/NA	Analysis	8015 NM		1			29905	07/18/22 09:00	SM	XEN MID
Total/NA	Prep	8015NM Prep			10.01 g	10 mL	29867	07/15/22 14:19	DM	XEN MID
Total/NA	Analysis	8015B NM		1			29786	07/15/22 22:57	SM	XEN MID
Soluble	Leach	DI Leach			4.98 g	50 mL	29660	07/15/22 12:07	SMC	XEN MID
Soluble	Analysis	300.0		1			29862	07/16/22 20:01	CH	XEN MID

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Eurofins Carlsbad

Accreditation/Certification Summary

Client: Ensolum
Project/Site: RDU 14

Job ID: 890-2557-1
SDG: 03A1987035

Laboratory: Eurofins Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-22-24	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015 NM		Solid	Total TPH
Total BTEX		Solid	Total BTEX

Method Summary

Client: Ensolum
Project/Site: RDU 14

Job ID: 890-2557-1
SDG: 03A1987035

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XEN MID
Total BTEX	Total BTEX Calculation	TAL SOP	XEN MID
8015 NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XEN MID
300.0	Anions, Ion Chromatography	MCAWW	XEN MID
5035	Closed System Purge and Trap	SW846	XEN MID
8015NM Prep	Microextraction	SW846	XEN MID
DI Leach	Deionized Water Leaching Procedure	ASTM	XEN MID

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

XEN MID = Eurofins Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: Ensolum
Project/Site: RDU 14

Job ID: 890-2557-1
SDG: 03A1987035

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-2557-1	FS07	Solid	07/13/22 10:20	07/13/22 14:55	4
890-2557-2	SW11	Solid	07/13/22 10:25	07/13/22 14:55	0 - 4
890-2557-3	SW12	Solid	07/13/22 10:30	07/13/22 14:55	0 - 4

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



Environment Testing
Xenco

Houston, TX (281) 240-4200, Dallas, TX (214) 902-0300
Midland, TX (432) 704-5440, San Antonio, TX (210) 509-3334
El Paso, TX (915) 585-3443, Lubbock, TX (806) 794-1296
Hobbs, NM (575) 392-7550, Carlsbad, NM (575) 989-3199

Chain of Custody

Work Order No: _____

www.xenco.com Page 1 of 1

Project Manager:	Ben Beill	Bill to: (if different)	Jim Raley
Company Name:	Ensolum	Company Name:	WPX
Address:	3122 National Parks HWY	Address:	5315 Buena Vista Dr.
City, State ZIP:	Carlsbad, NM 88220	City, State ZIP:	Carlsbad, NM 88220
Phone:	989-854-0852	Email:	BBeill@Ensolum.com, jim.raley@cdvn.com

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

Project Name:	RDU 14	Turn Around	☒ Routine ☐ Rush	Pres. Code	
---------------	--------	-------------	---	------------	--

Project Number:	03A1987035	Due Date:	5 Day TAT
-----------------	------------	-----------	-----------

Project Location:	Eddy County, NM	TAT starts the day received by the lab, if received by 4:30pm
-------------------	-----------------	---

Sampler's Name:	Gilbert Moreno
-----------------	----------------

CC #:	1061147701
-------	------------

Temp Blank:	Yes ☒ No ☐	Wet Ice:	Yes ☒ No ☐
-------------	---	----------	---

Samples Received Inact:	Yes ☒ No ☐	Thermometer ID:	75W-003
-------------------------	---	-----------------	---------

Cooler Custody Seals:	Yes ☒ No ☐	Correction Factor:	-0.2
-----------------------	---	--------------------	------

Sample Custody Seals:	Yes ☒ No ☐	Temperature Reading:	3.8
-----------------------	---	----------------------	-----

Total Containers:	Corrected Temperature:	3.6
-------------------	------------------------	-----

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Grab/Comp	# of Cont
-----------------------	--------	--------------	--------------	-------	-----------	-----------

FS07	S	7.13.22	10:20	4'	Comp	1
------	---	---------	-------	----	------	---

SW11	S	7.13.22	10:25	0-4'	Comp	1
------	---	---------	-------	------	------	---

SW12	S	7.13.22	10:30	0-4'	Comp	1
------	---	---------	-------	------	------	---

--	--	--	--	--	--	--

ANALYSIS REQUEST						
------------------	--	--	--	--	--	--

Preservative Codes						
--------------------	--	--	--	--	--	--

None: NO	DI Water: H ₂ O
----------	----------------------------

Cool: Cool	MeOH: Me
------------	----------

HCL: HC	HNO ₃ : HN
---------	-----------------------

H ₂ SO ₄ : H ₂	NaOH: Na
---	----------

H ₃ PO ₄ : HP	
-------------------------------------	--

NaHSO ₄ : NABIS	
----------------------------	--

Na ₂ S ₂ O ₃ : NaSO ₃	
---	--

Zn Acetate+NaOH: Zn	
---------------------	--

NaOH+Ascorbic Acid: SAPC	
--------------------------	--

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	
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		Hg: 1631 / 245.1 / 7470 / 7471			

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
		7.13.22 1455			

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Eurofins Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Eurofins 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 Eurofins Xenco. A minimum charge of \$85.00 will be applied to each project and a charge of \$5 for each sample submitted to Eurofins Xenco, but not analyzed. These terms will be enforced unless previously negotiated.					
---	--	--	--	--	--

Incident Numbers NAB1504757628 NAB1636431146 NAB1902951984					
---	--	--	--	--	--

Revised Date 09/25/2020 Rev 20202					
-----------------------------------	--	--	--	--	--

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2557-1

SDG Number: 03A1987035

Login Number: 2557

List Number: 1

Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: Ensolum

Job Number: 890-2557-1

SDG Number: 03A1987035

Login Number: 2557

List Number: 2

Creator: Rodriguez, Leticia

List Source: Eurofins Midland

List Creation: 07/15/22 12:13 PM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	



APPENDIX F

Email Correspondence

From: [Joseph Hernandez](#)
To: ocd.enviro@state.nm.us; "[CFO_Spill, BLM_NM](#)"
Cc: [Raley, Jim](#); [Ben Belill](#)
Subject: WPX Site Sampling Activity Update (7/11-7/16/22)
Date: Friday, July 8, 2022 11:48:59 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)

Good morning,

WPX anticipates conducting final confirmation soil sampling activities at the following sites between July 11 through July 16, 2022:

Site: RDU 55

API: 30-015-41976

Incident ID: NAB1728549561

Site: RDU 14

API: 30-015-25208

Incident ID's: NAB1504757628, NAB1636431146, & NAB1902951984

Site: North Brushy 35-4H

API: 30-015-42290

Incident ID: NRM2019550034

Site: RDX Federal 21 #044

API: 30-015-41193

Incident Number: nAPP2115533694

Site: EP USA #005

API: 30-015-25020

Incident Number: NMAP1826970471

Site: Tucker Draw 9-4-4

API: 30-015-44487

Incident Number: nAB1812338789



Joseph Hernandez

Senior Geologist

281-702-2329

Ensolum, LLC

in f 

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 158135

CONDITIONS

Operator: WPX Energy Permian, LLC Devon Energy - Regulatory Oklahoma City, OK 73102	OGRID: 246289
	Action Number: 158135
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bhall	None	12/30/2022