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	NAPP2125353154
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # *(assigned by OCD)*
Contact mailing address	

Location of Release Source

Latitude _____ Longitude _____
(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# *(if applicable)*

Unit Letter	Section	Township	Range	County

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

Nature and Volume of Release

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

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

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2125353154
District RP	
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 not 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: _____ Title: _____

Signature: Adrian Bates Date: _____

email: _____ Telephone: _____

OCD Only

Received by: Ramona Marcus Date: 9/12/2021

Location:	**Remuda 500**	
Spill Date:	**9/2/2021**	
Area 1		
Approximate Area =	1413.00	sq. ft.
Average Saturation (or depth) of spill =	2.00	inches
Average Porosity Factor =	0.03	
VOLUME OF LEAK		
Total Crude Oil =	1.75	bbls
Total Produced Water =	4.51	bbls
TOTAL VOLUME OF LEAK		
Total Crude Oil =	**1.75**	**bbls**
Total Produced Water =	**4.51**	**bbls**
TOTAL VOLUME RECOVERED		
Total Crude Oil =	**1.40**	**bbls**
Total Produced Water =	**3.60**	**bbls**

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

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 47734
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rmarcus	None	9/12/2021

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2125353154
District RP	
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.

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2125353154
District RP	
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: _____Adrian Baker_____ Title: _____SSHE Coordinator_____

Signature:_____ _____Adrian Baker_____ Date: __12/01/2021_____

email: _____ adrian.baker@exxonmobil.com _____ Telephone: ____(432)-236-3808_____

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2125353154
District RP	
Facility ID	
Application ID	

Remediation Plan

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

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

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

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

☒ Extents of contamination must be fully delineated.

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

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

Printed Name: Adrian Baker Title: SSHE Coordinator

Signature: Adrian Baker Date: 12/01/2021

email: adrian.baker@exxonmobil.com Telephone: (432)-236-3808

OCD Only

Received by: Date:

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

Signature: Jennifer Nobui Date: 02/28/2022

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

December 1, 2021

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

RE: Deferral Request
Remuda 500 Tank Battery
Incident Number NAPP2125353154
Eddy County, New Mexico

To Whom It May Concern:

WSP USA Inc. (WSP) on behalf of XTO Energy, Inc. (XTO), presents the following Deferral Request detailing site assessment, soil sampling, and excavation activities at the Remuda 500 Tank Battery (Site) in Unit O, Section 25, Township 23 South, Range 29 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment, soil sampling, and excavation activities was to address impacts to soil resulting from a release of produced water and crude oil at the Site. Based on field observations, field screening activities, and soil sample laboratory analytical results, XTO is submitting this Deferral Request, describing remediation activities that have occurred and requesting deferral of final remediation for Incident Number NAPP2125353154 until the Site is reconstructed or the well pad is abandoned.

RELEASE BACKGROUND

On September 2, 2021, a broken nipple on an out-of-service pump resulted in the release of 4.51 barrels (bbls) of produced water and 1.75 bbls of crude oil onto the surface of the well pad around active production equipment and steel containments. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; approximately 3.60 bbls of produced water and 1.40 bbls of crude oil were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification Form C-141 (Form C-141) on September 10, 2021. The release was assigned Incident Number NAPP2125353154.

SITE CHARACTERIZATION

WSP characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is greater than 100 feet below ground surface (bgs) based on the nearest groundwater well data. The closest permitted groundwater well with depth to groundwater data is New Mexico Office of the State Engineer (NMOSE) well C-04494, located approximately 0.31 miles northwest of the Site. The groundwater well has a reported total depth

of 105 feet. Per the well record, groundwater was not encountered while drilling. All wells used for depth to groundwater determination are depicted on Figure 1 and referenced well records are provided in Attachment 1.

The closest continuously flowing or significant watercourse to the Site is an emergent wetland, located approximately 1,180 feet northeast of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (medium potential karst designation area). Site receptors are identified on Figure 1.

CLOSURE CRITERIA

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

- Benzene: 10 milligrams per kilogram (mg/kg)
- Benzene, toluene, ethylbenzene, and total xylenes (BTEX): 50 mg/kg
- Total petroleum hydrocarbons (TPH)-gasoline range organics (GRO) and TPH-diesel range organics (DRO): 1,000 mg/kg
- TPH: 2,500 mg/kg
- Chloride: 20,000 mg/kg

SITE ASSESSMENT ACTIVITIES AND ANALYTICAL RESULTS

On October 12, 2021, WSP personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. WSP personnel collected three preliminary assessment soil samples, SS01 through SS03, within the release extent from a depth of approximately 0.5 feet bgs to assess the lateral extent of impacts to soil. The preliminary soil samples were field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2.

The preliminary soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Eurofins Xenco Laboratories (Eurofins Xenco) in Carlsbad, New Mexico, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-

GRO, TPH-DRO, and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

Laboratory analytical results for preliminary soil samples SS01 through SS03 indicated that TPH-GRO/TPH-DRO and TPH concentrations exceeded the Closure Criteria. Chloride concentrations were compliant with the Closure Criteria in all three preliminary soil samples. Based on visual observations, field screening activities, and laboratory analytical results exceeding Closure Criteria, remediation activities were warranted.

EXCAVATION, DELINEATION, AND REMEDIATION ACTIVITIES

Between November 15, 2021 and November 17, 2021, WSP personnel were at the Site to oversee excavation, delineation, and additional remediation activities. Impacted soil was excavated from the release area as indicated by visible staining, field screening activities, and laboratory analytical results for the preliminary soil samples. The excavations occurred on the well pad near the active production equipment where access was limited by the presence of aboveground, active production equipment and steel tank battery containments (Photo Log). XTO safety policy restricts excavation of soil within 2 feet of active production equipment. As a result, two separate areas were excavated (Figure 3). Excavation activities were performed using a trackhoe, backhoe, and transport vehicle. To direct excavation activities, WSP screened soil for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively. The excavations were completed to depths ranging from 2 to 4 feet bgs in areas that were accessible by equipment.

Following removal of impacted soil to the extent possible, WSP collected 5-point composite soil samples every 200 square feet from the floor of the excavations. The 5-point composite samples were collected by placing five equivalent aliquots of soil into a 1-gallon, resealable plastic bag and homogenizing the samples by thoroughly mixing. Composite soil samples, FS01 through FS05, were collected at depths ranging from 2 feet to 4 feet bgs from the floor of the excavations. Composite soil samples, SW01 through SW03, were collected at depths ranging from ground surface to 4 feet bgs. The excavation soil samples were collected, handled, and analyzed as described above. The excavation extent and excavation soil sample locations are depicted on Figure 3. An estimated 120 cubic yards of soil were removed from the excavations. The soil was properly disposed of at R360 Disposal Facility in Hobbs, New Mexico.

Delineation potholes PH01 through PH05 were advanced via backhoe to a maximum depth of 4 feet bgs within and around the release extent to delineate the lateral and vertical extent of impacted soil left in place around active production equipment. Two discrete delineation soil samples were collected from each pothole at depths of 1 foot bgs and 4 feet bgs. Soil from the potholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for

each pothole were documented on a lithologic/soil sampling log, which are included as Attachment 2. The delineation pothole locations are depicted on Figure 3.

To enhance remediation of residual hydrocarbon impacted soil left in place between active production equipment and steel containments, WSP personnel oversaw the application of Micro-Blaze®, a chemical amendment of wetting agents, nutrients, and microbes that enhance microbial degradation of hydrocarbons. These areas were sprayed with 3 percent diluted solution of Micro-Blaze® and freshwater, followed by raking of the treated soil. The extent of the Micro-Blaze® application and raking area was mapped utilizing a handheld GPS unit and is depicted on Figure 3 as the Deferral Area. Photographic documentation was conducted during the Site visits and a photographic log is included in Attachment 3.

ANALYTICAL RESULTS

Laboratory analytical results for preliminary soil samples SS01 through SS03 indicated that TPH-GRO/TPH-DRO and TPH concentrations exceeded the Closure Criteria. Based on laboratory analytical results, excavation and delineation activities were completed. Laboratory analytical results for excavation floor samples FS01 through FS05 indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria.

Laboratory analytical results for the soil samples collected from delineation pothole PH01 indicated TPH-GRO/DRO and TPH concentrations in PH01, collected at 1 foot bgs exceeded Closure Criteria. Delineation pothole PH01A, collected at 4 feet bgs, provides vertical delineation of the release extent with laboratory analytical results indicating benzene, BTEX, TPH-GRO/DRO, TPH and chloride are in compliance with Closure Criteria. Delineation potholes PH02 through PH05 indicate that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria and provide lateral delineation of the release. In addition, benzene, BTEX, TPH-GRO/DRO, TPH, and chloride concentrations in delineation potholes PH02 through PH05 provide delineation to the strictest Table 1 Closure Criteria. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included in Attachment 4.

DEFERRAL REQUEST

XTO is requesting deferral of final remediation due to the presence of active production equipment and surface pipelines within the release extent. The impacted soil is limited to the areas immediately beneath surface pipelines and active production equipment, where remediation would require a major facility deconstruction.

The impacted soil remaining in place beneath the active production equipment and surface pipelines is delineated vertically by delineation pothole sample PH01A collected at 4 feet bgs within the release extent. The impacted soil is delineated laterally by delineation pothole samples PH02/PH02A through PH05/PH05A. A maximum of 110 cubic yards of impacted soil remains in

place beneath the active production equipment, assuming a maximum depth of 4 feet based on the delineation pothole soil samples listed above, that were compliant with the Closure Criteria. The deferral request area is shown on Figure 3.

WSP and XTO do not believe deferment will result in imminent risk to human health, the environment, or groundwater. Depth to groundwater is greater than 100 feet bgs, the majority of the released fluids were recovered during initial response activities, and the impacted soil remaining in place was treated with a chemical amendment and is limited to the area immediately beneath surface pipelines and active production equipment. Based on the presence of surface pipelines and active production equipment within the release area and the complete lateral and vertical delineation of impacted soil remaining in place, XTO requests deferral of final remediation for Incident Number NAPP2125353154 until final reclamation of the well pad or major construction, whichever comes first.

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

Sincerely,

WSP USA Inc.

Ben Belill
Assistant Consultant, Geologist

Ashley L. Ager, M.S., P.G.
Assistant Vice President, Geologist

cc: Shelby Pennington, XTO
Adrian Baker, XTO
New Mexico State Land Office

Attachments:

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

FIGURES

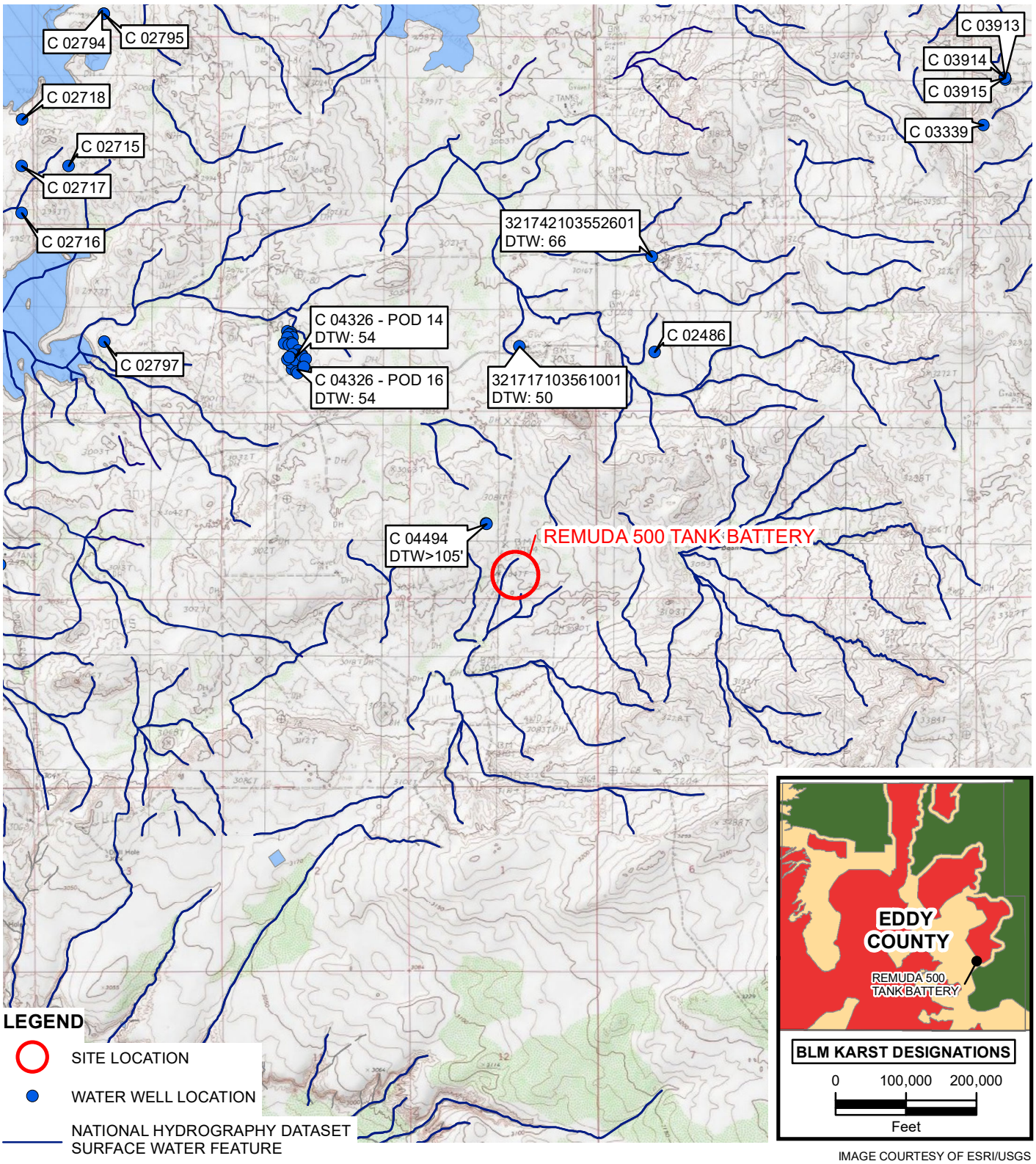
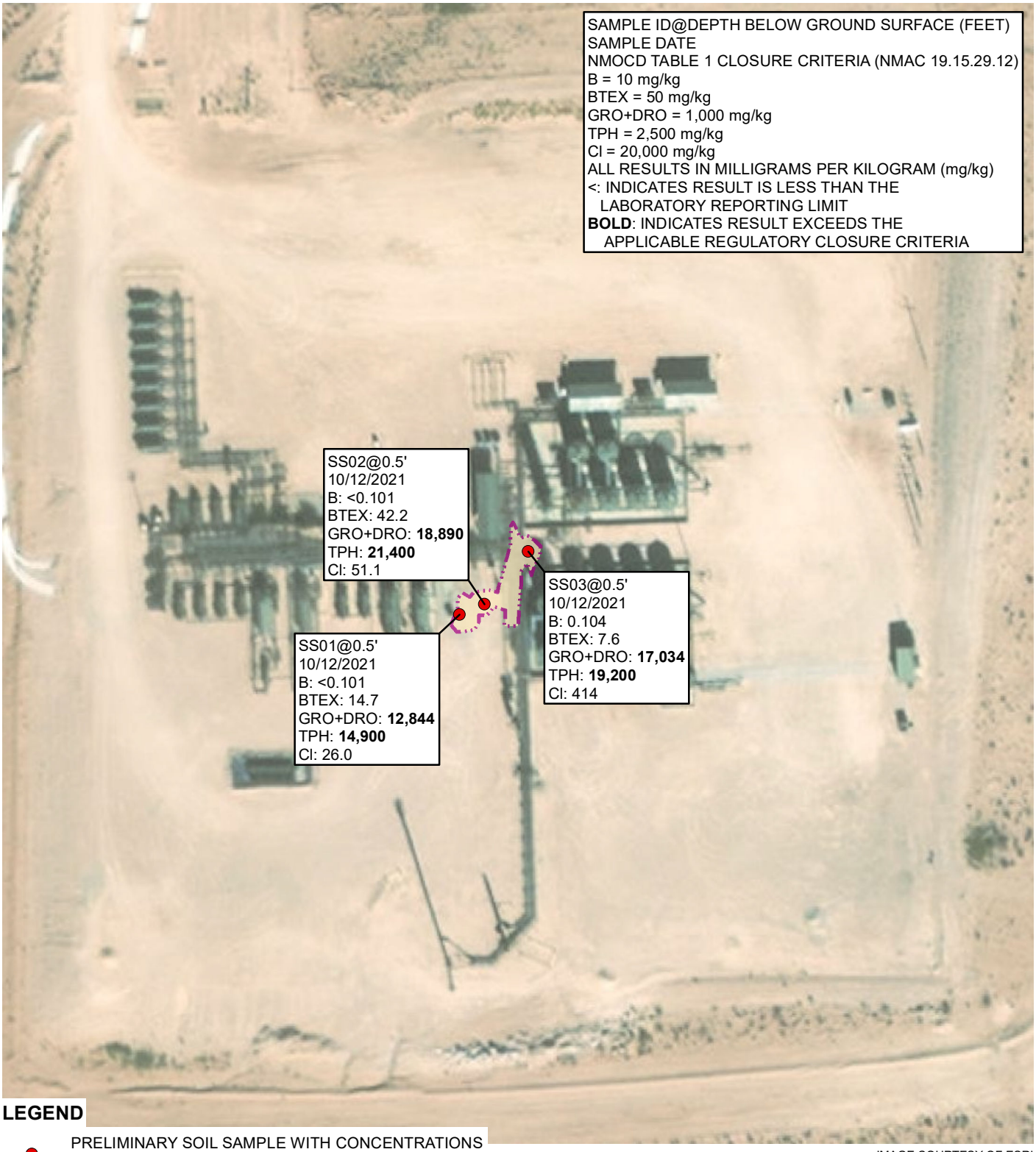


FIGURE 1
SITE LOCATION MAP
REMUDA 500 TANK BATTERY
UNIT O SEC 25 T23S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC

P:\XTO Energy\GIS\31403236.029.01_REMUDA 500\MXD\31403236.029.01_FIG01_SL_RECEPTOR_2021.mxd



B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: INCIDENT NUMBER NAPP2125353154

FIGURE 2
PRELIMINARY SOIL SAMPLE LOCATIONS
REMUDA 500 TANK BATTERY
UNIT O SEC 25 T23S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\31403236.029.01_REMUDA 500\MXD\31403236.029.01_FIG02_PRELIMINARY_2021.mxd

LEGEND

- DELINEATION SOIL SAMPLE WITH CONCENTRATIONS PREVIOUSLY EXCEEDING APPLICABLE CLOSURE CRITERIA
- DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- FLOOR SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- SIDEWALL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- DEFERRAL AREA
- EXCAVATION EXTENT

NOTE: INCIDENT NUMBER NAPP2125353154
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

IMAGE COURTESY OF ESRI

0 50 100
Feet

N

FIGURE 3
SOIL SAMPLE LOCATIONS
REMUDA 500 TANK BATTERY
UNIT O SEC 25 T23S R29E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\31403236.029.01_REMUDA 500\MXD\31403236.029.01_FIG03_SS_LOC_2021.mxd

TABLES

Table 1

Soil Analytical Results
Remuda 500 Tank Battery
Incident Number : NAPP2125353154
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			**10**	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**
Surface Samples										
SS01	10/12/2021	0.5	<0.101	14.7	12,200	644	2,070	**12,844**	**14,900**	26.0
SS02	10/12/2021	0.5	<0.101	42.2	17,100	1,790	2,480	**18,890**	**21,400**	51.1
SS03	10/12/2021	0.5	0.104	7.60	16,600	434	2,170	**17,034**	**19,200**	414
Delineation Samples										
PH01	11/15/2021	1	0.0681	0.704	7,950	7,890	756	**15,840**	**16,600**	1,330
PH01A	11/15/2021	4	0.00449	0.0621	202	<49.8	105	105	307	360
PH02	11/16/2021	1	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	129
PH02A	11/16/2021	4	<0.00200	<0.00401	<49.8	<49.8	<49.8	<49.8	<49.8	28.1
PH03	11/17/2021	1	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	136
PH03A	11/17/2021	4	<0.00202	<0.00403	<49.8	<49.8	<49.8	<49.8	<49.8	218
PH04	11/16/2021	1	<0.00202	<0.00403	<49.8	<49.8	<49.8	<49.8	<49.8	121
PH04A	11/17/2021	4	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	62.6
PH05	11/17/2021	1	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	79.2
PH05A	11/17/2021	4	<0.00202	<0.00404	<50.0	<50.0	<50.0	<50.0	<50.0	9.75
Excavation Floor Samples										
FS01	11/16/2021	3	<0.00198	<0.00397	<50.0	<50.0	<50.0	<50.0	<50.0	191
FS02	11/16/2021	3	<0.00199	<0.00398	65.6	<50.0	<50.0	65.6	65.6	174
FS03	11/16/2021	2	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	116
FS04	11/16/2021	2	<0.00201	<0.00402	96.3	<50.0	<50.0	96.3	96.3	96.2
FS05	11/17/2021	4	<0.00201	0.121	423	<49.8	75.4	498	498	1,070

Table 1

Soil Analytical Results
Remuda 500 Tank Battery
Incident Number : NAPP2125353154
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			**10**	**50**	NE	NE	NE	**1,000**	**2,500**	**20,000**
Excavation Sidewall Samples										
SW01	11/16/2021	0 - 3	<0.00200	<0.00400	<49.8	<49.8	<49.8	<49.8	<49.8	176
SW02	11/16/2021	0 - 2	<0.00200	<0.00399	<49.9	<49.9	<49.9	<49.9	<49.9	71.6
SW03	11/17/2021	0 - 4	<0.00200	0.0454	707	<49.8	121	828	828	2,090

Notes:

ft - feet/foot
mg/kg - milligrams per kilograms
BTEX - benzene, toluene, ethylbenzene, and total xylenes
TPH - total petroleum hydrocarbons
DRO - diesel range organics
GRO - gasoline range organics
ORO - oil range organics
NMOCD - New Mexico Oil Conservation Division
NMAC - New Mexico Administrative Code
< - indicates result is less than the stated laboratory method practical quantitation limit
NE - Not Established
BOLD - indicates results exceed the higher of the background sample result or applicable regulatory standard
Greyed data represents samples that were excavated

ATTACHMENT 1: REFERENCED WELL RECORD

WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220	BH or PH Name: C-04494	Date: 11/18/2020, 12/02/20, 01/05/2021
	Site Name:	Remuda North 25 Observation Well
	RP or Incident Numbe	
	LTE Job Number:	TE012919039
LITHOLOGIC / SOIL SAMPLING LOG	Logged By BB, LAD, FS	Method: Hollow Stem Auger, sonic
Lat/Long:	Field Screening:	Hole Diameter: 6.25", 4.25" / Total Depth: 105'

Comments:
Lithology remarks only. No field screenings: Dry hole

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D			N			1	SP-SC	0-1' : SAND, dry, brown, poorly graded, fine grain, Clay (10% clay), some roots, no stain, no odor
						2		
						3		
						4		1-4' : SAND, dry, reddish-light brown, poorly graded, very fine - fine grain, some rounded caliche pebbles, no stain, no odor
D			N			5	CCHE	
						6		4-9' : CALICHE, dry, light brown-tan, poorly consolidated, sub-rounded caliche pebbles and gravel, very silty, gradational
						7		
						8		9-14' : Abundent sub-round caliche gravel
						9		14-19' : Some sub-angular caliche gravel and pebbles
						10		19-24' : Abundant sub-angular caliche gravel and pebbles, moderately consolidated
						11		
						12		
						13		
						14		
						15		
						16		
						17		
						18		
						19		
						20		
						21		
						22		
						23		
						24		
D			N			25	CL	

WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220	BH or PH Name: C-04494	Date: 11/18/2020, 12/02/20, 01/05/2021
	Site Name:	Remuda North 25 Observation Well
	RP or Incident Numbe	
	LTE Job Number:	TE012919039
LITHOLOGIC / SOIL SAMPLING LOG	Logged By BB, LAD, FS	Method: Hollow Stem Auger, sonic
Lat/Long:	Field Screening:	Hole Diameter: 6.25", 4.25" / Total Depth: 105'

Comments:
Lithology remarks only. No field screenings: Dry hole

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D			N			26	CL	24-39' : MUDSTONE, dry, reddish-brown, low plasticity, well consolidated, cohesive, trace caliche sub-angular pebbles, no tain, no odor, sharp transition 34-39' : Sub-angular calcium carbonate gravel with dissolution features (1-3mm), tan-light brown At 39' : Begin air rotory (4.25") 39-42' : DOLOMETIC LIMESTONE, tan-light brown, dry, well consolidated, with dissolution features (1-3mm), sharp, no stain, no odor, light to moderate reaction with HCl 42-45' : Some light gray dolomite with trace dissolution features (>1mm) At 48' : Stop due to air rotory refusal (11/18/20)
						27		
						28		
						29		
						30		
						31		
						32		
						33		
						34		48-56' : Advance borehole with new air rotary bit (12/02/20), DOLOMITE, white, well consolidated, dark gray-black banding, no stain , no odor
						35		
						36		
						37		
						38		
						39		
D			N			40	DOL	
						41		
						42		
						43		
						44		
						45		
						46		
						47		
						48		Refusal on 11/18/20
						49		Restart borehole on 12/02/20
						50		

WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220	BH or PH Name: C-04494	Date: 11/18/2020. 12/02/2020, 1/5/2021
	Site Name: Remuda North 25 Observation Well	
	RP or Incident Number:	
	LTE Job Number: TE012919039	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By BB, LAD, FS	Method: Hollow Stem Auger, sonic
Lat/Long:	Field Screening:	Hole Diameter: 6.25", 4.25" / Total Depth: 105'

Comments:
Lithologic log only, no field screenings

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						51	DOL	48-56' : Advanced borehole with new air rotary bit (12/02/20), DOLOMITE, white, well consolidated, dark gray- banding, no stain no odor
						52		
						53		
						54		
						55		
						56		At 56' : Restarted borehole on 1/5/2021 with sonic rig
						57		56-65' : DOLOMITE, dry, light gray-gray, well consolidated, some calcium crystalline veins (<1mm), some dissolution features (2mm) with fine calcite crystalline, trace orange oxidation staining within dissolution features, no stain, no odor
						58		
						59		62' : Brown-pale yellow coarse crystalline dolomitic limestone stringer (2cm)
						60		63-65' : Abundant calcite crystalline veins (<1mm), pale green-gray, poorly consolidated
						61		
						62		65-69' : MUDSTONE, moist, reddish brown, poorly consolidated, high plasticity, cohesive, abundant coarse crystalline gypsum, few pale green-gray mottling, no stain, no odor
						63		
						64		69-81' : GYPSUM with Anhydrite, dry, greenish gray, some pale yellow, well consolidated, finr crystalline, 20% anhydrite, no stain, no odor
D			N			65	CH-S	
						66		
						67		
						68		
						69		
D			N			70	GYP	
						71		
						72		
						73		
						74		
						75		

WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220	BH or PH Name: C-04494	Date: 11/18/2020. 12/02/2020, 1/5/2021
	Site Name: Remuda North 25 Observation Well	
	RP or Incident Number:	
	LTE Job Number: TE012919039	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By BB, LAD, FS	Method: Hollow Stem Auger, sonic
Lat/Long:	Field Screening:	Hole Diameter: 6.25", 4.25" / Total Depth: 105'

Comments:
Lithologic log only, no field screenings

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						76	GYP	69-81' : GYPSUM with Anhydrite, dry, greenish gray, some pale yellow, well consolidated, finr crystalline, 20% anhydrite, no stain, no odor
						77		
						78		81-98' : MUDSTONE, moist, dark reddish brown, moderately consolidated, high plasticity, cohesive, trace coarse crystalline gypsum inclusions, no stain, no odor
						79		
						80		85-86.5' : greenish-gray well consolidated coarse crystalline gypsum/anhydrite stringer
						81		
D			N			82	CH-S	90-98' : Some fine grain brown sand At 97' : dark gray-gray gyspum stringer (4cm)
						83		
						84		98-99.5' : GYPSUM, dark gray-gray, some brown, dry, well consolidated, fine-coarse crystalline, no stain, no odor
						85		99.5-105' : Sandy SILTSTONE, moist, brown, some gray-dark gray, poorly consolidated, 20% very fine grain sand, no stain, no odor
						86		
						87		
						88		
						89		
						90		
						91		
						92		
						93		
						94		
						95		
						96		
						97		
						98		
D			N			99	GYP	
D			N			100	ML-S	

WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220	BH or PH Name: C-04494	Date: 11/18/2020. 12/02/2020, 1/5/2021
	Site Name: Remuda North 25 Observation Well	
	RP or Incident Number:	
	LTE Job Number: TE012919039	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By BB, LAD, FS	Method: Hollow Stem Auger, sonic
Lat/Long:	Field Screening:	Hole Diameter: 6.25", 4.25" / Total Depth: 105'

Comments:
Lithologic log only, no field screenings

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
D			N			101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125	ML-S	99.5-105' : Sandy SILTSTONE, moist, brown, some gray-dark gray, poorly consolidated, 20% very fine grain sand, no stain, no odor At 102' : Thin (<1mm) laminated black/gray well consolidated shale stringer (4cm thick) TD @ 105' bgs (1/5/2021)

ATTACHMENT 2: LITHOLOGIC/SAMPLING LOG

WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220	BH or PH Name: PH01	Date: 11-15-2021
	Site Name: Remuda 500 Tank Battery	
	RP or Incident Number: NAPP2125353154	
	WSP Job Number: 31403236.029	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: EL	Method: Backhoe
Lat/Long: 32.27049, -103.93688 Field Screening: Hach chloride strips, PID	Hole Diameter: N/A	Total Depth: 3 Feet

Comments: All chloride field screenings include a 40% correction factor
M-moist; D-dry; Y-yes; N-no; SAA-same as above

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
M	<162	14.2	N	PH01	1	1	SP-SC	SAND, BROWN, FINE-MED GRAIN, SILTY, WELL GRADED, MOIST, ABUNDANT COBBEL, AND GRAVEL, SOME CLAY, LOW PLASTICITY, NON-COHESIVE
M	<162	3.3	N	PH01A	2	2	SP-SC	SAA, BUT TAN
M	<162	2.2	N	PH01B	3	3	SP-SC	SAA

TD @ 3 ft bgs

WSP USA

508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: PH02	Date: 11-16-2021
Site Name: Remuda 500 Tank Battery	
RP or Incident Number: NAPP2125353154	
WSP Job Number: 31403236.029	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: EL	Method: Backhoe		
Lat/Long: 32.27049, -103.93688	Field Screening: Hach chloride strips, PID	Hole Diameter: N/A	Total Depth: 4 Feet

Comments: All chloride field screenings include a 40% correction factor
M-moist; D-dry; Y-yes; N-no; SAA-same as above

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	<162.4	0.7	N	PH02	1	1	SP-SC	SAND, TAN, FINE-MED GRAIN, SILTY, WELL GRADED, MOIST, ABUNDANT COBBEL, AND GRAVEL, SOME CLAY, LOW PLASTICITY, NON-COHESIVE
D	<162.4	0.3	N	PH02A	2	2	SP-SC	SAA
D	<162.4	0.3	N	PH02B	3	3	SP-SC	SAA
D	<162.4	0	N	PH02C	4	4	SP-SC	SAA

TD @ 4 ft bgs

WSP USA

508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: PH03	Date: 11-17-2021
Site Name: Remuda 500 Tank Battery	
RP or Incident Number: NAPP2125353154	
WSP Job Number: 31403236.029	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: PB	Method: Backhoe		
Lat/Long: 32.27049, -103.93688	Field Screening: Hach chloride strips, PID	Hole Diameter: N/A	Total Depth: 4 Feet

Comments: All chloride field screenings include a 40% correction factor
M-moist; D-dry; Y-yes; N-no; SAA-same as above

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	156.8	1.4	N	PH03	1	1	CCHE	SAND, CALICHE, BROWN, COARSE GRAIN, POORLY SORTED, TRACE SILT, NO STAIN, TRACE ODOR
D	<156.8	1.4	N	PH03A	2	2	CCHE	SAA, NO ODOR
D	<156.8	1.6	N	PH03B	3	3	SP	SANDSTONE, SAND, REDDISH-BROWN, COARSE GRAIN, POORLY SORTED, NO STAIN, NO ODOR
D	190.4	1	N	PH03C	4	4	CCHE	SAND, CALICHE, BROWN, COARSE GRAIN, POORLY SORTED, TRACE SILT, NO STAIN, NO ODOR

TD @ 4 ft bgs

WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220	BH or PH Name: PH04	Date: 11-16-2021
	Site Name: Remuda 500 Tank Battery	
	RP or Incident Number: NAPP2125353154	
	WSP Job Number: 31403236.029	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: EL, PB	Method: Backhoe
Lat/Long: 32.27049, -103.93688 Field Screening: Hach chloride strips, PID	Hole Diameter: N/A	Total Depth: 4'

Comments: All chloride field screenings include a 40% correction factor
M-moist; D-dry; Y-yes; N-no; SAA-same as above

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	<162.4	0.0	N	PH04	1	1	SP-SC	SAND, TAN, FINE-MED GRAIN, SILTY, WELL GRADED, MOIST, ABUNDANT COBBEL, AND GRAVEL, SOME CLAY, LOW PLASTICITY, NON-COHESIVE
D	<162.4	3.0	N	PH04A	2	2	SP-SC	SAA
D	<162.4	1.0	N	PH04B	3	3	SP-SC	SAA
D	<156.8	0.5	N	PH04C	4	4	CCHE	SAND, BROWN-LIGHT BROWN, MED-COARSE GRAINED, SOME SILT AND CALICHE, POORLY SORTED, NO STAIN OR ODOR

TD @ 4 ft bgs

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: PH05	Date: 11-17-2021
Site Name: Remuda 500 Tank Battery	
RP or Incident Number: NAPP2125353154	
WSP Job Number: 31403236.029	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: PB	Method: Backhoe		
Lat/Long: 32.27049, -103.93688	Field Screening: Hach Chloride strips, PID	Hole Diameter: N/A	Total Depth: 4 Feet

Comments: All chloride field screenings include a 40% correction factor
M-moist; D-dry; Y-yes; N-no; SAA-same as above

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	<156.8	1.6	N	PH05	1	1	CCHE	SAND, BROWN-LIGHT BROWN, COARSE GRAIN, SOME SILT, SOME CALICHE GRAVEL, POORLY SORTED, NO STAIN, NO ODOR
D	<156.8	1.4	N	PH05A	2	2	CCHE	SAA
D	<156.8	0.9	N	PH05B	3	3	CCHE	SAA
D	<156.8	1	N	PH05C	4	4	CCHE	SAA, BUT MED-COARSE GRAIN

TD @ 4 ft bgs

ATTACHMENT 3: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG		
XTO Energy, Inc.	REMUDA 500 TANK BATTERY Eddy County, New Mexico	NAPP2125353154

Photo No.	Date
1	October 12, 2021

View of release extent facing North.

Photo No.	Date
2	November 15, 2021

View of pothole facing North.

PHOTOGRAPHIC LOG		
XTO Energy, Inc.	REMUDA 500 TANK BATTERY Eddy County, New Mexico	NAPP2125353154

Photo No.	Date
3	November 15, 2021

View of Micro-Blaze® application facing North.

Photo No.	Date
4	November 15,2021

View of Micro-Blaze® application facing North.

PHOTOGRAPHIC LOG		
XTO Energy, Inc.	REMUDA 500 TANK BATTERY Eddy County, New Mexico	NAPP2125353154

Photo No.	Date
5	November 16, 2021

View of western excavation extent facing South.

Photo No.	Date
6	November 16, 2021

View of western excavation extent facing North.

ATTACHMENT 4: LABORATORY ANALYTICAL RESULTS

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-1601-1
Laboratory Sample Delivery Group: 31403236.029
Client Project/Site: Remuda 500

For:
WSP USA Inc.
2777 N. Stemmons Freeway
Suite 1600
Dallas, Texas 75207

Attn: Kalei Jennings

JKramer

Authorized for release by:
11/19/2021 7:43:25 PM

Jessica Kramer, Project Manager
(432)704-5440
jessica.kramer@eurofinset.com

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: WSP USA Inc.
Project/Site: Remuda 500

Laboratory Job ID: 890-1601-1
SDG: 31403236.029

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-1601-1
Project/Site: Remuda 500 SDG: 31403236.029

Qualifiers

GC VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

GC Semi VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.
S1-	Surrogate recovery exceeds control limits, low biased.
S1+	Surrogate recovery exceeds control limits, high biased.
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: WSP USA Inc.
Project/Site: Remuda 500

Job ID: 890-1601-1
SDG: 31403236.029

Job ID: 890-1601-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1601-1

Receipt
The samples were received on 11/18/2021 1:27 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 1.2°C

GC VOA
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 laboratory control sample (LCS) associated with preparation batch 880-12717 and analytical batch 880-12737 was outside acceptance criteria. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: PH05A (890-1601-8) and (LCSD 880-12717/3-A). Evidence of matrix interferences is not obvious.

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.

Client Sample Results

Client: WSP USA Inc.
Project/Site: Remuda 500

Job ID: 890-1601-1
SDG: 31403236.029

Client Sample ID: PH02

Date Collected: 11/16/21 16:09
Date Received: 11/18/21 13:27
Sample Depth: 1

Lab Sample ID: 890-1601-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/19/21 09:00	11/19/21 12:19	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/19/21 09:00	11/19/21 12:19	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/19/21 09:00	11/19/21 12:19	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		11/19/21 09:00	11/19/21 12:19	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/19/21 09:00	11/19/21 12:19	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		11/19/21 09:00	11/19/21 12:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*121*		*70 - 130*	*11/19/21 09:00*	*11/19/21 12:19*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*11/19/21 09:00*	*11/19/21 12:19*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00399	U	0.00399		mg/Kg			11/19/21 13:44	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			11/19/21 13:54	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *+	50.0		mg/Kg		11/19/21 09:13	11/19/21 13:40	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/19/21 09:13	11/19/21 13:40	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/19/21 09:13	11/19/21 13:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*11/19/21 09:13*	*11/19/21 13:40*	*1*
o-Terphenyl	*111*		*70 - 130*	*11/19/21 09:13*	*11/19/21 13:40*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**129**		5.00		mg/Kg			11/19/21 17:30	1

Client Sample ID: PH02A

Date Collected: 11/16/21 16:27
Date Received: 11/18/21 13:27
Sample Depth: 4

Lab Sample ID: 890-1601-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/19/21 09:00	11/19/21 12:39	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/19/21 09:00	11/19/21 12:39	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/19/21 09:00	11/19/21 12:39	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		11/19/21 09:00	11/19/21 12:39	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/19/21 09:00	11/19/21 12:39	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		11/19/21 09:00	11/19/21 12:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*149*	*S1+*	*70 - 130*	*11/19/21 09:00*	*11/19/21 12:39*	*1*

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Client Sample Results

Client: WSP USA Inc.
Project/Site: Remuda 500

Job ID: 890-1601-1
SDG: 31403236.029

Client Sample ID: PH02A

Lab Sample ID: 890-1601-2
Matrix: Solid
Date Collected: 11/16/21 16:27
Date Received: 11/18/21 13:27
Sample Depth: 4

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*129*		*70 - 130*	*11/19/21 09:00*	*11/19/21 12:39*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			11/19/21 13:44	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			11/19/21 13:54	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *+	49.8		mg/Kg		11/19/21 09:13	11/19/21 14:45	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		11/19/21 09:13	11/19/21 14:45	1
OII Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		11/19/21 09:13	11/19/21 14:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*94*		*70 - 130*	*11/19/21 09:13*	*11/19/21 14:45*	*1*
o-Terphenyl	*106*		*70 - 130*	*11/19/21 09:13*	*11/19/21 14:45*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**28.1**		5.00		mg/Kg			11/19/21 17:35	1

Client Sample ID: PH03

Lab Sample ID: 890-1601-3
Matrix: Solid
Date Collected: 11/17/21 13:15
Date Received: 11/18/21 13:27
Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		11/19/21 09:00	11/19/21 13:00	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/19/21 09:00	11/19/21 13:00	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/19/21 09:00	11/19/21 13:00	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/19/21 09:00	11/19/21 13:00	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/19/21 09:00	11/19/21 13:00	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/19/21 09:00	11/19/21 13:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*11/19/21 09:00*	*11/19/21 13:00*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*11/19/21 09:00*	*11/19/21 13:00*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/19/21 13:44	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			11/19/21 13:54	1

Client Sample Results

Client: WSP USA Inc.
Project/Site: Remuda 500

Job ID: 890-1601-1
SDG: 31403236.029

Client Sample ID: PH03

Lab Sample ID: 890-1601-3
Matrix: Solid
Date Collected: 11/17/21 13:15
Date Received: 11/18/21 13:27
Sample Depth: 1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *+	49.8		mg/Kg		11/19/21 09:13	11/19/21 15:07	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		11/19/21 09:13	11/19/21 15:07	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		11/19/21 09:13	11/19/21 15:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*11/19/21 09:13*	*11/19/21 15:07*	*1*
o-Terphenyl	*114*		*70 - 130*	*11/19/21 09:13*	*11/19/21 15:07*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**136**		4.95		mg/Kg			11/19/21 17:40	1

Client Sample ID: PH03A

Lab Sample ID: 890-1601-4
Matrix: Solid
Date Collected: 11/17/21 13:35
Date Received: 11/18/21 13:27
Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		11/19/21 09:00	11/19/21 13:20	1
Toluene	<0.00202	U	0.00202		mg/Kg		11/19/21 09:00	11/19/21 13:20	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		11/19/21 09:00	11/19/21 13:20	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		11/19/21 09:00	11/19/21 13:20	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		11/19/21 09:00	11/19/21 13:20	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		11/19/21 09:00	11/19/21 13:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*11/19/21 09:00*	*11/19/21 13:20*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*11/19/21 09:00*	*11/19/21 13:20*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			11/19/21 13:44	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			11/19/21 13:54	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *+	49.8		mg/Kg		11/19/21 09:13	11/19/21 15:29	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		11/19/21 09:13	11/19/21 15:29	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		11/19/21 09:13	11/19/21 15:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*89*		*70 - 130*	*11/19/21 09:13*	*11/19/21 15:29*	*1*
o-Terphenyl	*98*		*70 - 130*	*11/19/21 09:13*	*11/19/21 15:29*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: Remuda 500

Job ID: 890-1601-1
SDG: 31403236.029

Client Sample ID: PH03A
Lab Sample ID: 890-1601-4

Date Collected: 11/17/21 13:35
Matrix: Solid
Date Received: 11/18/21 13:27
Sample Depth: 4

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	218		5.00		mg/Kg			11/19/21 17:45	1

Client Sample ID: PH04
Lab Sample ID: 890-1601-5

Date Collected: 11/16/21 17:10
Matrix: Solid
Date Received: 11/18/21 13:27
Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		11/19/21 09:00	11/19/21 13:41	1
Toluene	<0.00202	U	0.00202		mg/Kg		11/19/21 09:00	11/19/21 13:41	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		11/19/21 09:00	11/19/21 13:41	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		11/19/21 09:00	11/19/21 13:41	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		11/19/21 09:00	11/19/21 13:41	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		11/19/21 09:00	11/19/21 13:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*11/19/21 09:00*	*11/19/21 13:41*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*11/19/21 09:00*	*11/19/21 13:41*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00403	U	0.00403		mg/Kg			11/19/21 13:44	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.8	U	49.8		mg/Kg			11/19/21 13:54	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U *+	49.8		mg/Kg		11/19/21 09:13	11/19/21 15:51	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		11/19/21 09:13	11/19/21 15:51	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		11/19/21 09:13	11/19/21 15:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*11/19/21 09:13*	*11/19/21 15:51*	*1*
o-Terphenyl	*100*		*70 - 130*	*11/19/21 09:13*	*11/19/21 15:51*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	121		4.99		mg/Kg			11/19/21 17:59	1

Client Sample Results

Client: WSP USA Inc.
Project/Site: Remuda 500

Job ID: 890-1601-1
SDG: 31403236.029

Client Sample ID: PH04A

Lab Sample ID: 890-1601-6
Matrix: Solid
Date Collected: 11/17/21 14:07
Date Received: 11/18/21 13:27
Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		11/19/21 09:00	11/19/21 14:01	1
Toluene	<0.00201	U	0.00201		mg/Kg		11/19/21 09:00	11/19/21 14:01	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		11/19/21 09:00	11/19/21 14:01	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		11/19/21 09:00	11/19/21 14:01	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		11/19/21 09:00	11/19/21 14:01	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		11/19/21 09:00	11/19/21 14:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*116*		*70 - 130*	*11/19/21 09:00*	*11/19/21 14:01*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*11/19/21 09:00*	*11/19/21 14:01*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00402	U	0.00402		mg/Kg			11/19/21 13:44	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<49.9	U	49.9		mg/Kg			11/19/21 13:54	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.9	U *+	49.9		mg/Kg		11/19/21 09:13	11/19/21 16:13	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		11/19/21 09:13	11/19/21 16:13	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		11/19/21 09:13	11/19/21 16:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*91*		*70 - 130*	*11/19/21 09:13*	*11/19/21 16:13*	*1*
o-Terphenyl	*98*		*70 - 130*	*11/19/21 09:13*	*11/19/21 16:13*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**62.6**		4.98		mg/Kg			11/19/21 18:04	1

Client Sample ID: PH05

Lab Sample ID: 890-1601-7
Matrix: Solid
Date Collected: 11/17/21 14:27
Date Received: 11/18/21 13:27
Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/19/21 09:00	11/19/21 14:21	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/19/21 09:00	11/19/21 14:21	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/19/21 09:00	11/19/21 14:21	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		11/19/21 09:00	11/19/21 14:21	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/19/21 09:00	11/19/21 14:21	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		11/19/21 09:00	11/19/21 14:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*11/19/21 09:00*	*11/19/21 14:21*	*1*

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Client Sample Results

Client: WSP USA Inc.
Project/Site: Remuda 500

Job ID: 890-1601-1
SDG: 31403236.029

Client Sample ID: PH05

Lab Sample ID: 890-1601-7
Matrix: Solid
Date Collected: 11/17/21 14:27
Date Received: 11/18/21 13:27
Sample Depth: 1

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

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*11/19/21 09:00*	*11/19/21 14:21*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00401	U	0.00401		mg/Kg			11/19/21 13:44	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			11/19/21 13:54	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *+	50.0		mg/Kg		11/19/21 09:13	11/19/21 16:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/19/21 09:13	11/19/21 16:35	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/19/21 09:13	11/19/21 16:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1-Chlorooctane	*85*		*70 - 130*	*11/19/21 09:13*	*11/19/21 16:35*	*1*
o-Terphenyl	*96*		*70 - 130*	*11/19/21 09:13*	*11/19/21 16:35*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**79.2**		4.96		mg/Kg			11/19/21 18:19	1

Client Sample ID: PH05A

Lab Sample ID: 890-1601-8
Matrix: Solid
Date Collected: 11/17/21 14:35
Date Received: 11/18/21 13:27
Sample Depth: 4

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		11/19/21 09:00	11/19/21 14:42	1
Toluene	<0.00202	U	0.00202		mg/Kg		11/19/21 09:00	11/19/21 14:42	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		11/19/21 09:00	11/19/21 14:42	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		11/19/21 09:00	11/19/21 14:42	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		11/19/21 09:00	11/19/21 14:42	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		11/19/21 09:00	11/19/21 14:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*11/19/21 09:00*	*11/19/21 14:42*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*11/19/21 09:00*	*11/19/21 14:42*	*1*

Method: Total BTEX - Total BTEX Calculation

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total BTEX	<0.00404	U	0.00404		mg/Kg			11/19/21 13:44	1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Total TPH	<50.0	U	50.0		mg/Kg			11/19/21 13:54	1

Client Sample Results

Client: WSP USA Inc.
Project/Site: Remuda 500

Job ID: 890-1601-1
SDG: 31403236.029

Client Sample ID: PH05A
Date Collected: 11/17/21 14:35
Date Received: 11/18/21 13:27
Sample Depth: 4

Lab Sample ID: 890-1601-8
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U *+	50.0		mg/Kg		11/19/21 09:13	11/19/21 16:56	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/19/21 09:13	11/19/21 16:56	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/19/21 09:13	11/19/21 16:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*68*	*S1-*	*70 - 130*	*11/19/21 09:13*	*11/19/21 16:56*	*1*
o-Terphenyl	*72*		*70 - 130*	*11/19/21 09:13*	*11/19/21 16:56*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9.75**		5.01		mg/Kg			11/19/21 18:24	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: Remuda 500

Job ID: 890-1601-1
SDG: 31403236.029

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)
890-1601-1	PH02	121	103
890-1601-1 MS	PH02	114	107
890-1601-1 MSD	PH02	117	104
890-1601-2	PH02A	149 S1+	129
890-1601-3	PH03	100	107
890-1601-4	PH03A	116	107
890-1601-5	PH04	116	101
890-1601-6	PH04A	116	100
890-1601-7	PH05	107	109
890-1601-8	PH05A	109	103
LCS 880-12680/1-A	Lab Control Sample	113	108
LCSD 880-12680/2-A	Lab Control Sample Dup	107	105
MB 880-12680/5-A	Method Blank	99	102

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)
890-1601-1	PH02	96	111
890-1601-1 MS	PH02	101	97
890-1601-1 MSD	PH02	108	103
890-1601-2	PH02A	94	106
890-1601-3	PH03	102	114
890-1601-4	PH03A	89	98
890-1601-5	PH04	91	100
890-1601-6	PH04A	91	98
890-1601-7	PH05	85	96
890-1601-8	PH05A	68 S1-	72
LCS 880-12717/2-A	Lab Control Sample	91	73
LCSD 880-12717/3-A	Lab Control Sample Dup	131 S1+	119
MB 880-12717/1-A	Method Blank	96	106

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: WSP USA Inc.
Project/Site: Remuda 500

Job ID: 890-1601-1
SDG: 31403236.029

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-12680/5-A
Matrix: Solid
Analysis Batch: 12714

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 12680

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		11/19/21 09:00	11/19/21 11:57	1
Toluene	<0.00200	U	0.00200		mg/Kg		11/19/21 09:00	11/19/21 11:57	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		11/19/21 09:00	11/19/21 11:57	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		11/19/21 09:00	11/19/21 11:57	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		11/19/21 09:00	11/19/21 11:57	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		11/19/21 09:00	11/19/21 11:57	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*11/19/21 09:00*	*11/19/21 11:57*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*11/19/21 09:00*	*11/19/21 11:57*	*1*

Lab Sample ID: LCS 880-12680/1-A
Matrix: Solid
Analysis Batch: 12714

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 12680

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.1051		mg/Kg		105	70 - 130		
Toluene			0.100	0.09765		mg/Kg		98	70 - 130		
Ethylbenzene			0.100	0.09849		mg/Kg		98	70 - 130		
m-Xylene & p-Xylene			0.200	0.2056		mg/Kg		103	70 - 130		
o-Xylene			0.100	0.1011		mg/Kg		101	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: LCSD 880-12680/2-A
Matrix: Solid
Analysis Batch: 12714

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 12680

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.1012		mg/Kg		101	70 - 130	4	35
Toluene			0.100	0.09172		mg/Kg		92	70 - 130	6	35
Ethylbenzene			0.100	0.09052		mg/Kg		91	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.1898		mg/Kg		95	70 - 130	8	35
o-Xylene			0.100	0.09443		mg/Kg		94	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: 890-1601-1 MSD
Matrix: Solid
Analysis Batch: 12714

Client Sample ID: PH02
Prep Type: Total/NA
Prep Batch: 12680

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00200	U	0.0990	0.1064		mg/Kg					
Toluene	<0.00200	U	0.0990	0.09949		mg/Kg					

QC Sample Results

Client: WSP USA Inc.
Project/Site: Remuda 500

Job ID: 890-1601-1
SDG: 31403236.029

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

Lab Sample ID: 890-1601-1 MSD
Matrix: Solid
Analysis Batch: 12714

Client Sample ID: PH02
Prep Type: Total/NA
Prep Batch: 12680

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylbenzene	<0.00200	U	0.0990	0.1001		mg/Kg					
m-Xylene & p-Xylene	<0.00399	U	0.198	0.2116		mg/Kg					
o-Xylene	<0.00200	U	0.0990	0.1045		mg/Kg					

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*117*		*70 - 130*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*

Lab Sample ID: 890-1601-1 MS
Matrix: Solid
Analysis Batch: 12714

Client Sample ID: PH02
Prep Type: Total/NA

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*114*		*70 - 130*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*

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

Lab Sample ID: MB 880-12717/1-A
Matrix: Solid
Analysis Batch: 12737

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 12717

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		11/19/21 09:13	11/19/21 12:33	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		11/19/21 09:13	11/19/21 12:33	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		11/19/21 09:13	11/19/21 12:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*96*		*70 - 130*	*11/19/21 09:13*	*11/19/21 12:33*	*1*
o-Terphenyl	*106*		*70 - 130*	*11/19/21 09:13*	*11/19/21 12:33*	*1*

Lab Sample ID: LCS 880-12717/2-A
Matrix: Solid
Analysis Batch: 12737

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 12717

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	1214		mg/Kg		121	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	751.9		mg/Kg		75	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*91*		*70 - 130*
o-Terphenyl	*73*		*70 - 130*

QC Sample Results

Client: WSP USA Inc.
Project/Site: Remuda 500

Job ID: 890-1601-1
SDG: 31403236.029

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

Lab Sample ID: LCSD 880-12717/3-A
Matrix: Solid
Analysis Batch: 12737

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 12717

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1354	*+	mg/Kg		135	70 - 130	11	20
Diesel Range Organics (Over C10-C28)			1000	859.7		mg/Kg		86	70 - 130	13	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*131*	*S1+*	*70 - 130*
o-Terphenyl	*119*		*70 - 130*

Lab Sample ID: 890-1601-1 MS
Matrix: Solid
Analysis Batch: 12737

Client Sample ID: PH02
Prep Type: Total/NA
Prep Batch: 12717

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 *+	998	965.1		mg/Kg		94	70 - 130		
Diesel Range Organics (Over C10-C28)	<50.0	U	998	793.3		mg/Kg		79	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*101*		*70 - 130*
o-Terphenyl	*97*		*70 - 130*

Lab Sample ID: 890-1601-1 MSD
Matrix: Solid
Analysis Batch: 12737

Client Sample ID: PH02
Prep Type: Total/NA
Prep Batch: 12717

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 *+	998	945.5		mg/Kg		92	70 - 130	2	20
Diesel Range Organics (Over C10-C28)	<50.0	U	998	856.3		mg/Kg		86	70 - 130	8	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*108*		*70 - 130*
o-Terphenyl	*103*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-12748/1-A
Matrix: Solid
Analysis Batch: 12795

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<5.00	U	5.00		mg/Kg			11/19/21 16:21	1

QC Sample Results

Client: WSP USA Inc.
Project/Site: Remuda 500

Job ID: 890-1601-1
SDG: 31403236.029

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-12748/2-A
Matrix: Solid
Analysis Batch: 12795

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	246.1		mg/Kg		98	90 - 110		

Lab Sample ID: LCSD 880-12748/3-A
Matrix: Solid
Analysis Batch: 12795

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	247.8		mg/Kg		99	90 - 110	1	20

Lab Sample ID: 890-1601-4 MS
Matrix: Solid
Analysis Batch: 12795

Client Sample ID: PH03A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	218		250	445.7		mg/Kg		91	90 - 110		

Lab Sample ID: 890-1601-4 MSD
Matrix: Solid
Analysis Batch: 12795

Client Sample ID: PH03A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	218		250	452.5		mg/Kg		94	90 - 110	2	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: Remuda 500

Job ID: 890-1601-1
SDG: 31403236.029

GC VOA

Prep Batch: 12680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1601-1	PH02	Total/NA	Solid	5035	
890-1601-2	PH02A	Total/NA	Solid	5035	
890-1601-3	PH03	Total/NA	Solid	5035	
890-1601-4	PH03A	Total/NA	Solid	5035	
890-1601-5	PH04	Total/NA	Solid	5035	
890-1601-6	PH04A	Total/NA	Solid	5035	
890-1601-7	PH05	Total/NA	Solid	5035	
890-1601-8	PH05A	Total/NA	Solid	5035	
MB 880-12680/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-12680/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-12680/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1601-1 MSD	PH02	Total/NA	Solid	5035	

Analysis Batch: 12714

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1601-1	PH02	Total/NA	Solid	8021B	12680
890-1601-2	PH02A	Total/NA	Solid	8021B	12680
890-1601-3	PH03	Total/NA	Solid	8021B	12680
890-1601-4	PH03A	Total/NA	Solid	8021B	12680
890-1601-5	PH04	Total/NA	Solid	8021B	12680
890-1601-6	PH04A	Total/NA	Solid	8021B	12680
890-1601-7	PH05	Total/NA	Solid	8021B	12680
890-1601-8	PH05A	Total/NA	Solid	8021B	12680
MB 880-12680/5-A	Method Blank	Total/NA	Solid	8021B	12680
LCS 880-12680/1-A	Lab Control Sample	Total/NA	Solid	8021B	12680
LCSD 880-12680/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	12680
890-1601-1 MS	PH02	Total/NA	Solid	8021B	
890-1601-1 MSD	PH02	Total/NA	Solid	8021B	12680

Analysis Batch: 12779

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1601-1	PH02	Total/NA	Solid	Total BTEX	
890-1601-2	PH02A	Total/NA	Solid	Total BTEX	
890-1601-3	PH03	Total/NA	Solid	Total BTEX	
890-1601-4	PH03A	Total/NA	Solid	Total BTEX	
890-1601-5	PH04	Total/NA	Solid	Total BTEX	
890-1601-6	PH04A	Total/NA	Solid	Total BTEX	
890-1601-7	PH05	Total/NA	Solid	Total BTEX	
890-1601-8	PH05A	Total/NA	Solid	Total BTEX	

GC Semi VOA

Prep Batch: 12717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1601-1	PH02	Total/NA	Solid	8015NM Prep	
890-1601-2	PH02A	Total/NA	Solid	8015NM Prep	
890-1601-3	PH03	Total/NA	Solid	8015NM Prep	
890-1601-4	PH03A	Total/NA	Solid	8015NM Prep	
890-1601-5	PH04	Total/NA	Solid	8015NM Prep	
890-1601-6	PH04A	Total/NA	Solid	8015NM Prep	
890-1601-7	PH05	Total/NA	Solid	8015NM Prep	

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1601-1
Project/Site: Remuda 500 SDG: 31403236.029

GC Semi VOA (Continued)

Prep Batch: 12717 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1601-8	PH05A	Total/NA	Solid	8015NM Prep	
MB 880-12717/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-12717/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-12717/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1601-1 MS	PH02	Total/NA	Solid	8015NM Prep	
890-1601-1 MSD	PH02	Total/NA	Solid	8015NM Prep	

Analysis Batch: 12737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1601-1	PH02	Total/NA	Solid	8015B NM	12717
890-1601-2	PH02A	Total/NA	Solid	8015B NM	12717
890-1601-3	PH03	Total/NA	Solid	8015B NM	12717
890-1601-4	PH03A	Total/NA	Solid	8015B NM	12717
890-1601-5	PH04	Total/NA	Solid	8015B NM	12717
890-1601-6	PH04A	Total/NA	Solid	8015B NM	12717
890-1601-7	PH05	Total/NA	Solid	8015B NM	12717
890-1601-8	PH05A	Total/NA	Solid	8015B NM	12717
MB 880-12717/1-A	Method Blank	Total/NA	Solid	8015B NM	12717
LCS 880-12717/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	12717
LCSD 880-12717/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	12717
890-1601-1 MS	PH02	Total/NA	Solid	8015B NM	12717
890-1601-1 MSD	PH02	Total/NA	Solid	8015B NM	12717

Analysis Batch: 12781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1601-1	PH02	Total/NA	Solid	8015 NM	
890-1601-2	PH02A	Total/NA	Solid	8015 NM	
890-1601-3	PH03	Total/NA	Solid	8015 NM	
890-1601-4	PH03A	Total/NA	Solid	8015 NM	
890-1601-5	PH04	Total/NA	Solid	8015 NM	
890-1601-6	PH04A	Total/NA	Solid	8015 NM	
890-1601-7	PH05	Total/NA	Solid	8015 NM	
890-1601-8	PH05A	Total/NA	Solid	8015 NM	

HPLC/IC

Leach Batch: 12748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1601-1	PH02	Soluble	Solid	DI Leach	
890-1601-2	PH02A	Soluble	Solid	DI Leach	
890-1601-3	PH03	Soluble	Solid	DI Leach	
890-1601-4	PH03A	Soluble	Solid	DI Leach	
890-1601-5	PH04	Soluble	Solid	DI Leach	
890-1601-6	PH04A	Soluble	Solid	DI Leach	
890-1601-7	PH05	Soluble	Solid	DI Leach	
890-1601-8	PH05A	Soluble	Solid	DI Leach	
MB 880-12748/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-12748/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-12748/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1601-4 MS	PH03A	Soluble	Solid	DI Leach	
890-1601-4 MSD	PH03A	Soluble	Solid	DI Leach	

QC Association Summary

Client: WSP USA Inc.
Project/Site: Remuda 500

Job ID: 890-1601-1
SDG: 31403236.029

HPLC/IC

Analysis Batch: 12795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1601-1	PH02	Soluble	Solid	300.0	12748
890-1601-2	PH02A	Soluble	Solid	300.0	12748
890-1601-3	PH03	Soluble	Solid	300.0	12748
890-1601-4	PH03A	Soluble	Solid	300.0	12748
890-1601-5	PH04	Soluble	Solid	300.0	12748
890-1601-6	PH04A	Soluble	Solid	300.0	12748
890-1601-7	PH05	Soluble	Solid	300.0	12748
890-1601-8	PH05A	Soluble	Solid	300.0	12748
MB 880-12748/1-A	Method Blank	Soluble	Solid	300.0	12748
LCS 880-12748/2-A	Lab Control Sample	Soluble	Solid	300.0	12748
LCSD 880-12748/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	12748
890-1601-4 MS	PH03A	Soluble	Solid	300.0	12748
890-1601-4 MSD	PH03A	Soluble	Solid	300.0	12748

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Remuda 500

Job ID: 890-1601-1
SDG: 31403236.029

Client Sample ID: PH02
Date Collected: 11/16/21 16:09
Date Received: 11/18/21 13:27

Lab Sample ID: 890-1601-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			12680	11/19/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	12714	11/19/21 12:19	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	12779	11/19/21 13:44	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	12781	11/19/21 13:54	AJ	XEN MID
Total/NA	Prep	8015NM Prep			12717	11/19/21 09:13	DM	XEN MID
Total/NA	Analysis	8015B NM		1	12737	11/19/21 13:40	AJ	XEN MID
Soluble	Leach	DI Leach			12748	11/19/21 11:56	CH	XEN MID
Soluble	Analysis	300.0		1	12795	11/19/21 17:30	CH	XEN MID

Client Sample ID: PH02A
Date Collected: 11/16/21 16:27
Date Received: 11/18/21 13:27

Lab Sample ID: 890-1601-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			12680	11/19/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	12714	11/19/21 12:39	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	12779	11/19/21 13:44	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	12781	11/19/21 13:54	AJ	XEN MID
Total/NA	Prep	8015NM Prep			12717	11/19/21 09:13	DM	XEN MID
Total/NA	Analysis	8015B NM		1	12737	11/19/21 14:45	AJ	XEN MID
Soluble	Leach	DI Leach			12748	11/19/21 11:56	CH	XEN MID
Soluble	Analysis	300.0		1	12795	11/19/21 17:35	CH	XEN MID

Client Sample ID: PH03
Date Collected: 11/17/21 13:15
Date Received: 11/18/21 13:27

Lab Sample ID: 890-1601-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			12680	11/19/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	12714	11/19/21 13:00	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	12779	11/19/21 13:44	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	12781	11/19/21 13:54	AJ	XEN MID
Total/NA	Prep	8015NM Prep			12717	11/19/21 09:13	DM	XEN MID
Total/NA	Analysis	8015B NM		1	12737	11/19/21 15:07	AJ	XEN MID
Soluble	Leach	DI Leach			12748	11/19/21 11:56	CH	XEN MID
Soluble	Analysis	300.0		1	12795	11/19/21 17:40	CH	XEN MID

Client Sample ID: PH03A
Date Collected: 11/17/21 13:35
Date Received: 11/18/21 13:27

Lab Sample ID: 890-1601-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			12680	11/19/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	12714	11/19/21 13:20	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	12779	11/19/21 13:44	AJ	XEN MID

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Remuda 500

Job ID: 890-1601-1
SDG: 31403236.029

Client Sample ID: PH03A
Date Collected: 11/17/21 13:35
Date Received: 11/18/21 13:27

Lab Sample ID: 890-1601-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8015 NM		1	12781	11/19/21 13:54	AJ	XEN MID
Total/NA	Prep	8015NM Prep			12717	11/19/21 09:13	DM	XEN MID
Total/NA	Analysis	8015B NM		1	12737	11/19/21 15:29	AJ	XEN MID
Soluble	Leach	DI Leach			12748	11/19/21 11:56	CH	XEN MID
Soluble	Analysis	300.0		1	12795	11/19/21 17:45	CH	XEN MID

Client Sample ID: PH04
Date Collected: 11/16/21 17:10
Date Received: 11/18/21 13:27

Lab Sample ID: 890-1601-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			12680	11/19/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	12714	11/19/21 13:41	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	12779	11/19/21 13:44	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	12781	11/19/21 13:54	AJ	XEN MID
Total/NA	Prep	8015NM Prep			12717	11/19/21 09:13	DM	XEN MID
Total/NA	Analysis	8015B NM		1	12737	11/19/21 15:51	AJ	XEN MID
Soluble	Leach	DI Leach			12748	11/19/21 11:56	CH	XEN MID
Soluble	Analysis	300.0		1	12795	11/19/21 17:59	CH	XEN MID

Client Sample ID: PH04A
Date Collected: 11/17/21 14:07
Date Received: 11/18/21 13:27

Lab Sample ID: 890-1601-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			12680	11/19/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	12714	11/19/21 14:01	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	12779	11/19/21 13:44	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	12781	11/19/21 13:54	AJ	XEN MID
Total/NA	Prep	8015NM Prep			12717	11/19/21 09:13	DM	XEN MID
Total/NA	Analysis	8015B NM		1	12737	11/19/21 16:13	AJ	XEN MID
Soluble	Leach	DI Leach			12748	11/19/21 11:56	CH	XEN MID
Soluble	Analysis	300.0		1	12795	11/19/21 18:04	CH	XEN MID

Client Sample ID: PH05
Date Collected: 11/17/21 14:27
Date Received: 11/18/21 13:27

Lab Sample ID: 890-1601-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			12680	11/19/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	12714	11/19/21 14:21	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	12779	11/19/21 13:44	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	12781	11/19/21 13:54	AJ	XEN MID
Total/NA	Prep	8015NM Prep			12717	11/19/21 09:13	DM	XEN MID
Total/NA	Analysis	8015B NM		1	12737	11/19/21 16:35	AJ	XEN MID

Eurofins Xenco, Carlsbad

Lab Chronicle

Client: WSP USA Inc.
Project/Site: Remuda 500

Job ID: 890-1601-1
SDG: 31403236.029

Client Sample ID: PH05

Date Collected: 11/17/21 14:27
Date Received: 11/18/21 13:27

Lab Sample ID: 890-1601-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			12748	11/19/21 11:56	CH	XEN MID
Soluble	Analysis	300.0		1	12795	11/19/21 18:19	CH	XEN MID

Client Sample ID: PH05A

Date Collected: 11/17/21 14:35
Date Received: 11/18/21 13:27

Lab Sample ID: 890-1601-8

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			12680	11/19/21 09:00	KL	XEN MID
Total/NA	Analysis	8021B		1	12714	11/19/21 14:42	KL	XEN MID
Total/NA	Analysis	Total BTEX		1	12779	11/19/21 13:44	AJ	XEN MID
Total/NA	Analysis	8015 NM		1	12781	11/19/21 13:54	AJ	XEN MID
Total/NA	Prep	8015NM Prep			12717	11/19/21 09:13	DM	XEN MID
Total/NA	Analysis	8015B NM		1	12737	11/19/21 16:56	AJ	XEN MID
Soluble	Leach	DI Leach			12748	11/19/21 11:56	CH	XEN MID
Soluble	Analysis	300.0		1	12795	11/19/21 18:24	CH	XEN MID

Laboratory References:

XEN MID = Eurofins Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: Remuda 500

Job ID: 890-1601-1
SDG: 31403236.029

Laboratory: Eurofins Xenco, Midland

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Texas	NELAP	T104704400-21-22	06-30-22

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: WSP USA Inc.
Project/Site: Remuda 500

Job ID: 890-1601-1
SDG: 31403236.029

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 Xenco, Midland, 1211 W. Florida Ave, Midland, TX 79701, TEL (432)704-5440

Sample Summary

Client: WSP USA Inc.
Project/Site: Remuda 500

Job ID: 890-1601-1
SDG: 31403236.029

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1601-1	PH02	Solid	11/16/21 16:09	11/18/21 13:27	1
890-1601-2	PH02A	Solid	11/16/21 16:27	11/18/21 13:27	4
890-1601-3	PH03	Solid	11/17/21 13:15	11/18/21 13:27	1
890-1601-4	PH03A	Solid	11/17/21 13:35	11/18/21 13:27	4
890-1601-5	PH04	Solid	11/16/21 17:10	11/18/21 13:27	1
890-1601-6	PH04A	Solid	11/17/21 14:07	11/18/21 13:27	4
890-1601-7	PH05	Solid	11/17/21 14:27	11/18/21 13:27	1
890-1601-8	PH05A	Solid	11/17/21 14:35	11/18/21 13:27	4

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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 64227

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 64227
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Deferral Approved.	2/28/2022