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	nAPP2104347351
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

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

Location of Release Source

Latitude 32.27052 Longitude -103.93682
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Remuda 500	Site Type CTB
Date Release Discovered 2/08/2021	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
O	25	23S	29E	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) 0.46	Volume Recovered (bbls) 0.21
☒ Produced Water	Volume Released (bbls) 8.75	Volume Recovered (bbls) 7.79
	Is the concentration of total dissolved solids (TDS) in the produced water >10,000 mg/l?	☐ Yes ☐ No
☐ Condensate	Volume Released (bbls)	Volume Recovered (bbls)
☐ Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
☐ Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release A circulation pump seal failed, causing fluids to overflow skid containment. A third-party contractor has been retained for remediation activities.

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2104347351
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Facility ID	
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Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release? N/A

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

Initial Response

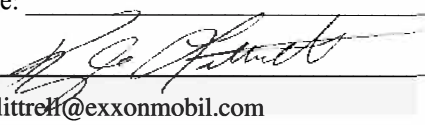
The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

- ☒ 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:
NA

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

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

Printed Name: Kyle Littrell
Title: Environmental Manager
Signature: 
Date: 2-12-21
email: kyle.littrell@exxonmobil.com
Telephone: 432-221-7331

OCD Only

Received by:
Date:

Location:	Remuda 500 CTB	
Spill Date:	2/8/2021	
Area 1		
Approximate Area =	1808.00	sq. ft.
Average Saturation (or depth) of spill =	1.50	inches
Average Porosity Factor =	0.03	
VOLUME OF LEAK		
Total Crude Oil =	0.46	bbls
Total Produced Water =	8.75	bbls
TOTAL VOLUME OF LEAK		
Total Crude Oil =	**0.46**	**bbls**
Total Produced Water =	**8.75**	**bbls**
TOTAL VOLUME RECOVERED		
Total Crude Oil =	**0.21**	**bbls**
Total Produced Water =	**7.79**	**bbls**

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2104347351
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.

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2104347351
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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: Kyle Littrell Title: Environmental Manager

Signature: Date: 05/03/2021

email: Kyle.Littrell@exxonmobil.com Telephone: (432)-221-7331

OCD Only

Received by: Date:

Incident ID	nAPP2104347351
District RP	
Facility ID	
Application ID	

Closure

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

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

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

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

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

☒ Description of remediation activities

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

Printed Name: Kyle Littrell Title: Environmental Manager

Signature: Date: 05/03/2021

email: Kyle.Littrell@exxonmobil.com Telephone: 432-221-7331

OCD Only

Received by: Date:

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:

Printed Name: Title:

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	nAPP2104347351
District RP	
Facility ID	
Application ID	

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Printed Name: Kyle Littrell Title: Environmental Manager

Signature: Date: 05/03/2021

email: Kyle.Littrell@exxonmobil.com Telephone: (432)-221-7331

OCD Only

Received by: Date:

Incident ID	nAPP2104347351
District RP	
Facility ID	
Application ID	

Closure

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☒ Description of remediation activities

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Printed Name: Kyle Littrell Title: Environmental Manager

Signature: Date: 05/03/2021

email: Kyle.Littrell@exxonmobil.com Telephone: 432-221-7331

OCD Only

Received by: Robert Hamlet Date: 8/18/2021

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

Closure Approved by: Robert Hamlet Date: 8/18/2021

Printed Name: Robert Hamlet Title: Environmental Specialist - Advanced

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

May 3, 2021

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

RE: Closure Request
Remuda 500
Incident Number nAPP2104347351
Eddy County, New Mexico

To Whom It May Concern:

WSP USA Inc. (WSP), on behalf of XTO Energy, Inc. (XTO), presents the following Closure Request detailing site assessment and soil sampling activities at the Remuda 500 (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 and soil sampling activities was to assess for the presence or absence of impacts to soil following the release of crude oil and produced water at the Site. Based on field observations, field screening activities, and soil sample laboratory analytical results, XTO is submitting this Closure Request and requesting no further action (NFA) for Incident Number nAPP2104347351.

RELEASE BACKGROUND

On February 8, 2021, a circulation pump seal failed resulting in the release of approximately 0.46 barrels (bbls) of crude oil and 8.75 bbls of produced water onto the surface of the well pad. A vacuum truck was immediately dispatched to the Site to recover free-standing fluids; approximately 0.21 bbls of crude oil and 7.79 bbls of produced water were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Release Notification and Corrective Action Form C-141 (Form C-141) on February 12, 2021 and was assigned Incident Number nAPP2104347351.

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 a recent soil boring drilled for determination of regional groundwater depth. During January 2021, WSP installed a soil boring (C-4494) within 0.5 miles of the Site utilizing a truck-mounted hollow-stem auger rig. Soil boring C-4494 was drilled to a depth of 105 feet bgs. A WSP geologist logged and described soils continuously. No moisture or groundwater was encountered

during drilling activities. The borehole lithologic/soil sampling log is included in Attachment 1. The location of the borehole is approximately 0.3 miles northwest of the Site and is depicted on Figure 1. The borehole was left open for over 72 hours to allow for potential slow infill of groundwater. After the 72-hour waiting period without observing groundwater, it was confirmed that groundwater beneath the Site is greater than 105 feet bgs. The borehole was properly abandoned with drill cuttings and hydrated bentonite chips.

The closest continuously flowing or significant watercourse to the Site is an unnamed dry wash located approximately 350 feet west of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (low potential karst designation area). Site receptors are identified on Figure 1.

CLOSURE CRITERIA

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

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

SITE ASSESSMENT AND SOIL SAMPLING ACTIVITIES

On March 23, 2021, WSP personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. The release occurred in an area of active process equipment with limited access. WSP personnel collected two preliminary assessment soil samples (SS01 and SS02) within the release extent from a depth of approximately 0.3 feet bgs to assess for the presence or absence of impacted soil. Preliminary sample SS02 was collected in the area nearest to the point of release. The preliminary soil samples were field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photoionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. The release extent and preliminary soil sample locations were mapped utilizing a handheld Global Positioning System (GPS) unit and are depicted on Figure 2.

The preliminary soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Eurofins Laboratories (Eurofins) 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 and SS02 indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. To further evaluate for the presence or absence of impacted soil, additional site assessment activities were scheduled.

DELINEATION SOIL SAMPLING ACTIVITIES

On April 14, 2021, WSP personnel returned to the Site to oversee additional site assessment activities. Seven potholes (PH01 through PH07) were advanced using a track-mounted backhoe to a depth of 3 feet bgs to confirm the absence of impacted soil. Potholes PH01 and PH02 were advanced within the release extent at the SS01 and SS02 preliminary soil sample locations. Potholes PH03 through PH07 were advanced in accessible areas around the release extent and active process equipment. Delineation soil samples were collected from each pothole from depths of 1-foot and 3 feet bgs. Soil from the potholes was field screened for volatile aromatic hydrocarbons and chloride utilizing PID and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations for each pothole were logged on lithologic/soil sampling logs, which are included in Attachment 2. The location of potholes PH01 through PH07 are presented on Figure 3. The delineation soil samples were collected, handled, and analyzed as described above at Xenco in Carlsbad, New Mexico. Photographic documentation of the Site visits is included in Attachment 3.

SOIL ANALYTICAL RESULTS

Laboratory analytical results for preliminary soil samples SS01 and SS02 indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. To further evaluate for the presence or absence of impacted soil, additional site assessment activities were completed.

Laboratory analytical results for the delineation soil samples collected from potholes PH01 through PH07 indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical results are summarized in Table 1 and laboratory analytical reports are included as Attachment 4.

CLOSURE REQUEST

Preliminary soil samples SS01 and SS02 and delineation soil samples from potholes PH01 through PH07 were collected within and around the release extent to assess for the presence or absence impacted soil resulting from the February 8, 2021 crude oil and produced water release. Laboratory analytical results for the preliminary and delineation soil samples indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria.

Initial response efforts, which included recovery of the majority of the release fluids via hydrovac, mitigated impacts at this Site. Based on initial response efforts, soil sample laboratory analytical results compliant with the Closure Criteria, and confirmed depth to groundwater greater than 100 feet bgs, no impacted soil was identified, and no excavation was required as a result of the crude oil and produced water release. XTO respectfully requests NFA for Incident Number nAPP2104347351.

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

Sincerely,

WSP USA Inc.

Elizabeth Naka
Assistant Consultant, Environmental Scientist

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

cc: Kyle Littrell, XTO
Ryan Mann, New Mexico State Land Office

Attachments:

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

FIGURES

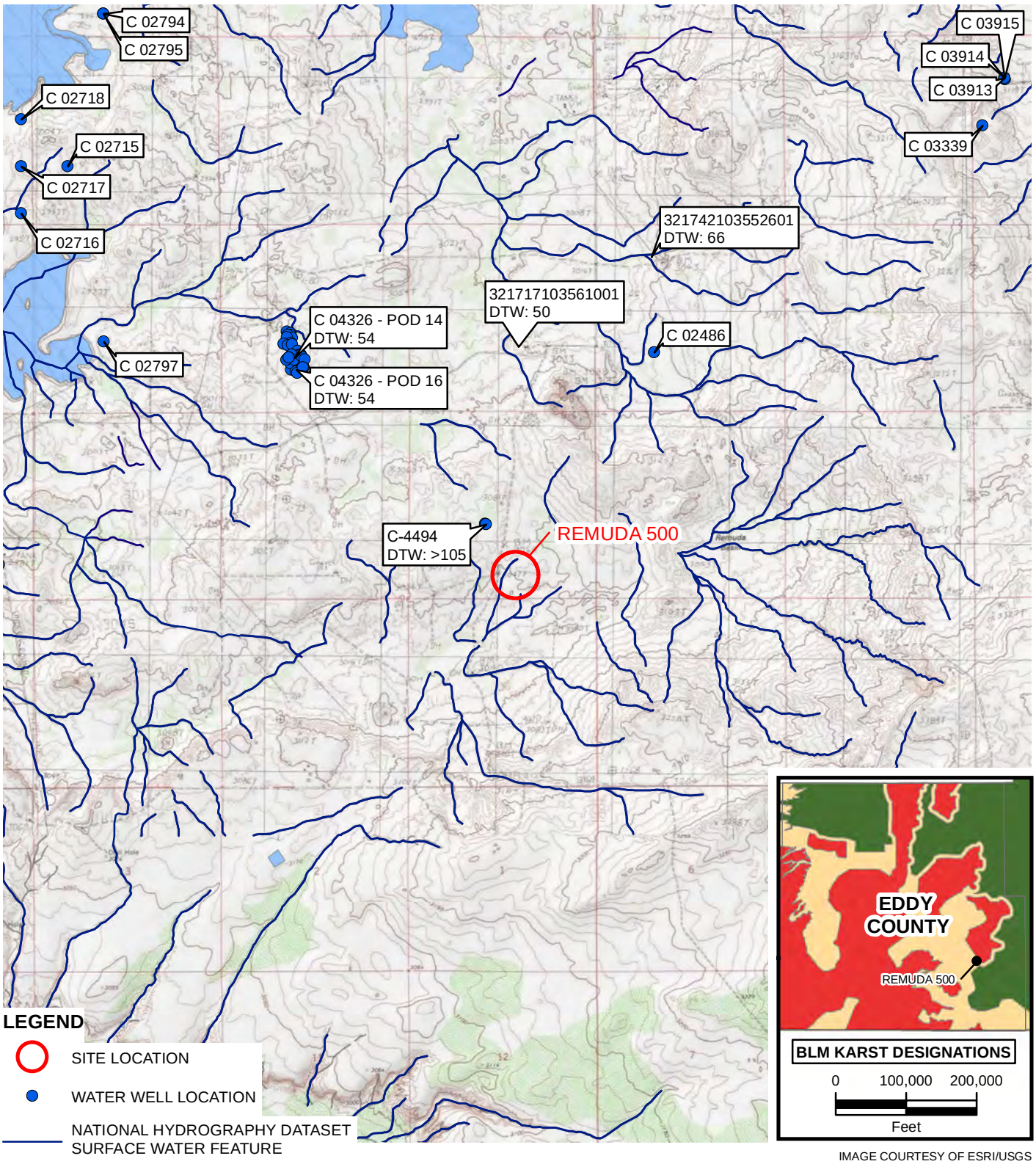

IMAGE COURTESY OF ESRI/USGS

DTW: DEPTH TO WATER IN FEET
BLM: BUREAU OF LAND MANAGEMENT
TD: TOTAL DEPTH IN FEET
NOTE: INCIDENT NUMBER nAPP2104347351

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

P:\XTO Energy\GIS\MXD\012921030_REMUDA 500\012921030_FIG01_SL_RECEPTOR_2021.mxd

IMAGE COURTESY OF ESRI

LEGEND

- RELEASE LOCATION
- PRELIMINARY SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- RELEASE EXTENT

0 50 100
Feet

N

NOTE: INCIDENT NUMBER nAPP2104347351
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

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

P:\XTO Energy\GIS\MXD\012921030_REMUDA 500\012921030_FIG02_PRELIMINARY_2021.mxd

LEGEND

- RELEASE LOCATION
- DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA
- RELEASE EXTENT
- INFRASTRUCTURE

NOTE: INCIDENT NUMBER nAPP2104347351
SAMPLE ID@DEPTH BELOW GROUND SURFACE (FEET)

IMAGE COURTESY OF ESRI

0 50 100
Feet

N

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

P:\XTO Energy\GIS\MXD\012921030_REMUDA 500\012921030_FIG03_DELINEATION_2021.mxd

TABLES

Table 1

Soil Analytical Results
Remuda 500
Incident Number nAPP2104347351
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Surface Samples										
SS01	03/23/2021	0.3	<0.00200	<0.00200	184	375	82.4	559	641	7,280
SS02	03/23/2021	0.3	<0.00199	0.00487	94.7	282	100	376.7	477	4,720
Delineation Samples										
PH01	04/14/2021	1.0	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	166
PH01A	04/14/2021	3.0	<0.00198	<0.00396	<49.9	<49.9	<49.9	<49.9	<49.9	197
PH02	04/14/2021	1.0	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	1,080
PH02A	04/14/2021	3.0	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	903
PH03	04/14/2021	1.0	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	115
PH03A	04/14/2021	3.0	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	165
PH04	04/14/2021	1.0	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	41.4
PH04A	04/14/2021	3.0	<0.00202	<0.00404	<49.9	<49.9	<49.9	<49.9	<49.9	65.5
PH05	04/14/2021	1.0	<0.00202	<0.00403	<49.9	<49.9	<49.9	<49.9	<49.9	195
PH05A	04/14/2021	3.0	<0.00201	<0.00402	<50.0	<50.0	<50.0	<50.0	<50.0	70.4
PH06	04/14/2021	1.0	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	287
PH06A	04/14/2021	3.0	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	389
PH07	04/14/2021	1.0	<0.00200	<0.00399	<50.0	<50.0	<50.0	<50.0	<50.0	725
PH07A	04/14/2021	3.0	<0.00199	<0.00398	<49.9	<49.9	<49.9	<49.9	<49.9	101

ft - feet/foot
mg/kg - milligrams per kilograms
BTEX - benzene, toluene, ethylbenzene, and total xylenes
TPH - total petroleum hydrocarbons
DRO - diesel range organics
GRO - gasoline range organics
ORO - motor oil range organics
NMOCD - New Mexico Oil Conservation Division
NMAC - New Mexico Administrative Code
< - indicates result is less than the stated laboratory method practical quantitation limit
NE - Not Established
BOLD - indicates results exceed the higher of the background sample result or applicable regulatory standard
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: BH01 (C-4494)	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: BH01 (C-4494)	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
						27		
						28		
						29		34-39' : Sub-angular calcium carbonate gravel with dissolution features (1-3mm), tan-light brown
						30		At 39' : Begin air rotory (4.25")
						31		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
						32		
						33		42-45' : Some light gray dolomite with trace dissolution features (>1mm)
						34		At 48' : Stop due to air rotory refusal (11/18/20)
						35		48-56' : Advance borehole with new air rotary bit (12/02/20), DOLOMITE, white, well consolidated, dark gray-black banding, no stain , no odor
						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: BH01 (C-4494)	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: BH01 (C-4494)	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
						83		At 97' : dark gray-gray gyspum stringer (4cm)
						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: BH01 (C-4494)	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
						101	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)
D			N			105		TD @ 105' bgs (1/5/2021)
						106		
						107		
						108		
						109		
						110		
						111		
						112		
						113		
						114		
						115		
						116		
						117		
						118		
						119		
						120		
						121		
						122		
						123		
						124		
						125		

ATTACHMENT 2: LITHOLOGIC/SAMPLING LOG

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: PH01	Date: 4/14/2021
Site Name:	Remuda 500
RP or Incident Number:	NAPP2104347351
WSP Job Number:	TE012921030
Logged By J. Hill	Method: Mini Backhoe
Lat/Long:	Field Screening: Hatch Chloride Strips, PID
Hole Diameter: 10"	Total Depth: 3'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:
TD @ 3'

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
M	240	2.0	Y	PH01	1.0	1	SWSC	Fine-med well graded sand with clay and gravel. Odor, No Plasticity. Organic Traces. Brown/Tan
D	304	0.0	N			2	SC	Clayey, fine sand w/ gravel. No Odor, Low Plasticity. No organic Traces. Red/Brown
D	184	0.0	N	PH01A	3.0	3	SWSC	Fine-med well graded sand with clay and gravel. No Odor, No Plasticity. Organic Traces. Red/Brown

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: PH02	Date: 4/14/2021
Site Name:	Remuda 500
RP or Incident Number:	NAPP2104347351
WSP Job Number:	TE012921030
Logged By J. Hill	Method: Mini Backhoe
Lat/Long:	Field Screening: Hatch Chloride Strips, PID
Hole Diameter: 10"	Total Depth: 3'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:
TD @ 3'

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
M	928	0.5	N	PH02	1.0	1	SWSC	Fine-med well graded sand with clay and gravel. No Odor, No Plasticity. Organic Traces. Red/Brown
M	804	1.5	N			2	SWSC	Fine-med well graded sand with clay and gravel. No Odor, No Plasticity. Organic Traces. Ligh Brown/ Pink
M	588	4.2	N	PH02A	3.0	3	SWSC	Fine-med well graded sand with clay and gravel. No Odor, No Plasticity. Organic Traces. Ligh Brown/ Pink

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: PH03	Date: 4/14/2021
Site Name:	Remuda 500
RP or Incident Number:	NAPP2104347351
WSP Job Number:	TE012921030
Logged By J. Hill	Method: Backhoe
Lat/Long:	Field Screening: Hatch Chloride Strips, PID
Hole Diameter: 20"	Total Depth: 3'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:
TD @ 3'

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	212	0.0	N			0.5	SWSM	Fine-med well graded sand with silt and gravel
								No Odor, No Plasticity. Organic Traces. Tan/Pink
D	156	0.0	N	PH03	1.0	1	SWSC	Fine-med well graded sand with clay and gravel.
								No Odor, No Plasticity. Organic Traces. Red/Light Brown
D	156	0.0	N			2	SWSC	Fine-med well graded sand with clay and gravel.
								No Odor, No Plasticity. Organic Traces. Red/Brown
D	164	0.0	N	PH03A	3.0	3	GWGC	Well Graded gravel with Clay and Sand
								No Odor, No Plasticity. Organic Traces. Red/ Brown

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: PH04	Date: 4/14/2021
Site Name:	Remuda 500
RP or Incident Number:	NAPP2104347351
WSP Job Number:	TE012921030
Logged By J. Hill	Method: Backhoe
Lat/Long:	Field Screening: Hatch Chloride Strips, PID
Hole Diameter: 20"	Total Depth: 3'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:
TD @ 3'

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	BDL	0.0	N			0.5	SWSC	Fine-med well graded sand with clay and gravel.
								No Odor, No Plasticity. Organic Traces. Brown/Tan
D	BDL	0.0	N	PH04	1.0	1	SWSC	Fine-med well graded sand with clay and gravel.
								No Odor, No Plasticity. Organic Traces. Brown/Tan
M	BDL	0.0	N			2	SC	Clayey sand with Gravel
								No Odor, Low Plasticity. Organic Traces. Red/Brown
D	BDL	0.0	N	PH04A	3.0	3	GWGC	Well Graded gravel with Clay and Sand
								No Odor, No Plasticity. Organic Traces. Red/ Brown

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: PH05	Date: 4/14/2021
Site Name:	Remuda 500
RP or Incident Number:	NAPP2104347351
WSP Job Number:	TE012921030
Logged By J. Hill	Method: Backhoe
Lat/Long:	Field Screening: Hatch Chloride Strips, PID
Hole Diameter: 20"	Total Depth: 3'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:
TD @ 3'

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	112	0.1	N			0.5	SWSC	Fine-med well graded sand with clay and gravel.
								No Odor, No Plasticity. Organic Traces. Brown/Tan
D	224	0.0	N	PH05	1.0	1	SWSC	Fine-med well graded sand with clay and gravel.
								No Odor, No Plasticity. Organic Traces. Brown/Tan
M	136	0.0	N			2	SC	Clayey sand with Gravel
								No Odor, Low Plasticity. Organic Traces. Red/Brown
D	112	0.0	N	PH05A	3.0	3	GWGC	Well Graded gravel with Clay and Sand
								No Odor, No Plasticity. Organic Traces. Red/ Brown

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: PH06	Date: 4/14/2021
Site Name:	Remuda 500
RP or Incident Number:	NAPP2104347351
WSP Job Number:	TE012921030
Logged By J. Hill	Method: Backhoe
Lat/Long:	Field Screening: Hatch Chloride Strips, PID
Hole Diameter: 20"	Total Depth: 3'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:
TD @ 3'

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	504	0.0	N			0.5	SWSM	Fine-med well graded sand with silt and gravel.
								No Odor, No Plasticity. Organic Traces. Tan/pink
D	296	0.0	N	PH06	1.0	1	SWSM	Fine-med well graded sand with silt and gravel.
								No Odor, No Plasticity. Organic Traces. Tan/pink
D	266	0.0	N			2	SWSC	Fine-med well graded sand with clay and gravel.
								No Odor, No Plasticity. Organic Traces. Brown/Pink
D	372	0.0	N	PH06A	3.0	3	SC	Clayey sand with gravel
								No Odor, Low Plasticity. Organic Traces. Red

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: PH07	Date: 4/14/2021
Site Name:	Remuda 500
RP or Incident Number:	NAPP2104347351
WSP Job Number:	TE012921030
Logged By J. Hill	Method: Backhoe
Lat/Long:	Field Screening: Hatch Chloride Strips, PID
Hole Diameter: 20"	Total Depth: 3'

LITHOLOGIC / SOIL SAMPLING LOG

Comments:
TD @ 3'

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0		
D	1,652	0.0	N			0.5	SWSM	Fine-med well graded sand with silt and gravel.
								No Odor, No Plasticity. Organic Traces. Tan/pink
D	660	0.0	N	PH07	1.0	1	SWSM	Fine-med well graded sand with silt and gravel.
								No Odor, No Plasticity. Organic Traces. Tan/pink
D	772	0.0	N			2	SWSM	Fine-med well graded sand with silt and gravel.
								No Odor, No Plasticity. Organic Traces. Light Brown/Orange
D	164	0.0	N	PH07A	3.0	3	SP	Fine, poorly graded sand with gravel
								No Odor, Low Plasticity. Organic Traces. Orange/Tan

ATTACHMENT 3: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG		
XTO Energy, Inc.	Remuda 500 Eddy County, New Mexico	nAPP2104347351

Photo No.	Date
1	March 23, 2021

View of release between tank batteries and process equipment facing west.

Photo No.	Date
2	March 23, 2021

View of release extent around and beneath equipment facing south.

PHOTOGRAPHIC LOG		
XTO Energy, Inc.	Remuda 500 Eddy County, New Mexico	nAPP2104347351

Photo No.	Date
3	April 14, 2021

View of locations of PH01, PH03, and PH04 facing southeast

Photo No.	Date
4	April 14, 2021

View of locations of PH06 and PH07, west of the release extent, facing north.

ATTACHMENT 4: LABORATORY ANALYTICAL RESULTS

eurofins | Environment Testing America

ANALYTICAL REPORT

Job Number: 890-410-1

SDG Number: TE012921030

Job Description: Remuda 500

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

Attention: Dan Moir

Approved for release.
Jessica Kramer
Project Manager
4/5/2021 8:30 AM

Jessica Kramer, Project Manager
1211 W. Florida Ave, Midland, TX, 79701
jessica.kramer@eurofinset.com
04/05/2021

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

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.

Eurofins Xenco, Carlsbad
1089 N Canal St., Carlsbad, NM 88220
Tel (575) 988-3199 Fax (575) 988-3199 www.EurofinsUS.com

Client Sample Result Summary

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

Job ID: 890-410-1
SDG: TE012921030

Lab Sample ID:	890-410-1	890-410-2
Client Sample ID:	SS01	SS02
Depth:	0.3	0.3
Matrix:	Solid	Solid
Date Collected:	03/23/2021 10:44	03/23/2021 10:52

Method: 8021B - Volatile Organic Compounds (GC)

	Prepared:	04/02/2021 09:30		04/02/2021 09:30	
	Analyzed:	04/02/2021 18:31		04/02/2021 18:51	
Analyte	**Unit/RL:**	mg/Kg	RL	mg/Kg	RL
Benzene		<0.00200 U	0.00200	<0.00199 U	0.00199
Ethylbenzene		<0.00200 U	0.00200	<0.00199 U	0.00199
Toluene		<0.00200 U	0.00200	**0.00487**	0.00199
Total BTEX		<0.00200 U	0.00200	**0.00487**	0.00199
Xylenes, Total		<0.00400 U	0.00400	<0.00398 U	0.00398
m-Xylene & p-Xylene		<0.00400 U	0.00400	<0.00398 U	0.00398
o-Xylene		<0.00200 U	0.00200	<0.00199 U	0.00199

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

	Prepared:	04/01/2021 14:29		04/01/2021 14:29	
	Analyzed:	04/02/2021 23:40		04/03/2021 00:01	
Analyte	**Unit/RL:**	mg/Kg	RL	mg/Kg	RL
Gasoline Range Organics (GRO)-C6-C10		**184**	49.8	**94.7**	50.0
Diesel Range Organics (Over C10-C28)		**375**	49.8	**282**	50.0
OII Range Organics (Over C28-C36)		**82.4**	49.8	**100**	50.0
Total TPH		**641**	49.8	**477**	50.0

Method: 300.0 - Anions, Ion Chromatography - Soluble

	Prepared:				
	Analyzed:	04/01/2021 01:42		04/01/2021 01:48	
Analyte	**Unit/RL:**	mg/Kg	RL	mg/Kg	RL
Chloride		**7280**	50.1	**4720**	25.3

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-529-1
Laboratory Sample Delivery Group: TE012921030
Client Project/Site: Remuda 500

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

Attn: Dan Moir

JKramer

Authorized for release by:
4/22/2021 4:15:33 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: 890-529-1
SDG: TE012921030

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-529-1
Project/Site: Remuda 500 SDG: TE012921030

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
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: 890-529-1
SDG: TE012921030

Job ID: 890-529-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-529-1

Comments
No additional comments.

Receipt
The samples were received on 4/15/2021 12:22 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 was 4.4º C.

Receipt Exceptions

The following samples analyzed for method BTEX 8021 were received and analyzed from an unpreserved bulk soil jar: PH01 (890-529-1), PH01A (890-529-2), PH02 (890-529-3), PH02A (890-529-4), PH03 (890-529-5), PH03A (890-529-6), PH04 (890-529-7), PH04A (890-529-8), PH05 (890-529-9), PH05A (890-529-10), PH06 (890-529-11), PH06A (890-529-12), PH07 (890-529-13) and PH07A (890-529-14).

GC VOA
Method 8021B: Internal standard responses were outside of acceptance limits for the following samples: PH03 (890-529-5), PH03A (890-529-6) and PH04 (890-529-7). The sample(s) shows evidence of matrix interference.

Method 8021B: Surrogate recovery for the following sample was outside control limits: PH07A (890-529-14). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

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

GC Semi VOA
Method 8015B NM: The continuing calibration verification (CCV) associated with batch 880-1967 recovered above the upper control limit for Diesel Range Organics (Over C10-C28)>. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

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

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

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

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

Client Sample Results

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

Job ID: 890-529-1
SDG: TE012921030

Client Sample ID: PH01

Lab Sample ID: 890-529-1
Matrix: Solid
Date Collected: 04/14/21 10:06
Date Received: 04/15/21 12:22
Sample Depth: - 1.0

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/16/21 12:15	04/16/21 23:02	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/16/21 12:15	04/16/21 23:02	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/16/21 12:15	04/16/21 23:02	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/16/21 12:15	04/16/21 23:02	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/16/21 12:15	04/16/21 23:02	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/16/21 12:15	04/16/21 23:02	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		04/16/21 12:15	04/16/21 23:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*04/16/21 12:15*	*04/16/21 23:02*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*04/16/21 12:15*	*04/16/21 23:02*	*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		04/16/21 16:52	04/19/21 13:59	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/16/21 16:52	04/19/21 13:59	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/16/21 16:52	04/19/21 13:59	1
Total TPH	<49.9	U	49.9		mg/Kg		04/16/21 16:52	04/19/21 13:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*04/16/21 16:52*	*04/19/21 13:59*	*1*
o-Terphenyl	*125*		*70 - 130*	*04/16/21 16:52*	*04/19/21 13:59*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**166**		5.00		mg/Kg			04/19/21 20:04	1

Client Sample ID: PH01A

Lab Sample ID: 890-529-2
Matrix: Solid
Date Collected: 04/14/21 10:40
Date Received: 04/15/21 12:22
Sample Depth: - 3.0

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		04/16/21 12:15	04/16/21 23:23	1
Toluene	<0.00198	U	0.00198		mg/Kg		04/16/21 12:15	04/16/21 23:23	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		04/16/21 12:15	04/16/21 23:23	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		04/16/21 12:15	04/16/21 23:23	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		04/16/21 12:15	04/16/21 23:23	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		04/16/21 12:15	04/16/21 23:23	1
Total BTEX	<0.00396	U	0.00396		mg/Kg		04/16/21 12:15	04/16/21 23:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*04/16/21 12:15*	*04/16/21 23:23*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*04/16/21 12:15*	*04/16/21 23:23*	*1*

Client Sample Results

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

Job ID: 890-529-1
SDG: TE012921030

Client Sample ID: PH01A

Lab Sample ID: 890-529-2
Matrix: Solid
Date Collected: 04/14/21 10:40
Date Received: 04/15/21 12:22
Sample Depth: - 3.0

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		04/16/21 16:52	04/19/21 15:06	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/16/21 16:52	04/19/21 15:06	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/16/21 16:52	04/19/21 15:06	1
Total TPH	<49.9	U	49.9		mg/Kg		04/16/21 16:52	04/19/21 15:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*119*		*70 - 130*	*04/16/21 16:52*	*04/19/21 15:06*	*1*
o-Terphenyl	*123*		*70 - 130*	*04/16/21 16:52*	*04/19/21 15:06*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**197**		4.99		mg/Kg			04/20/21 15:12	1

Client Sample ID: PH02

Lab Sample ID: 890-529-3
Matrix: Solid
Date Collected: 04/14/21 10:59
Date Received: 04/15/21 12:22
Sample Depth: - 1.0

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/16/21 12:15	04/17/21 01:12	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/16/21 12:15	04/17/21 01:12	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/16/21 12:15	04/17/21 01:12	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		04/16/21 12:15	04/17/21 01:12	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/16/21 12:15	04/17/21 01:12	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		04/16/21 12:15	04/17/21 01:12	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		04/16/21 12:15	04/17/21 01:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*04/16/21 12:15*	*04/17/21 01:12*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*04/16/21 12:15*	*04/17/21 01:12*	*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		04/16/21 16:52	04/19/21 20:14	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		04/16/21 16:52	04/19/21 20:14	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		04/16/21 16:52	04/19/21 20:14	1
Total TPH	<49.8	U	49.8		mg/Kg		04/16/21 16:52	04/19/21 20:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*04/16/21 16:52*	*04/19/21 20:14*	*1*
o-Terphenyl	*127*		*70 - 130*	*04/16/21 16:52*	*04/19/21 20:14*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1080**		4.95		mg/Kg			04/20/21 15:27	1

Client Sample Results

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

Job ID: 890-529-1
SDG: TE012921030

Client Sample ID: PH02A

Lab Sample ID: 890-529-4
Matrix: Solid
Date Collected: 04/14/21 11:13
Date Received: 04/15/21 12:22
Sample Depth: - 3.0

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/16/21 12:15	04/17/21 01:33	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/16/21 12:15	04/17/21 01:33	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/16/21 12:15	04/17/21 01:33	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/16/21 12:15	04/17/21 01:33	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/16/21 12:15	04/17/21 01:33	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/16/21 12:15	04/17/21 01:33	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		04/16/21 12:15	04/17/21 01:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*04/16/21 12:15*	*04/17/21 01:33*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*04/16/21 12:15*	*04/17/21 01:33*	*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		04/16/21 16:52	04/19/21 20:35	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/16/21 16:52	04/19/21 20:35	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/16/21 16:52	04/19/21 20:35	1
Total TPH	<49.9	U	49.9		mg/Kg		04/16/21 16:52	04/19/21 20:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*04/16/21 16:52*	*04/19/21 20:35*	*1*
o-Terphenyl	*118*		*70 - 130*	*04/16/21 16:52*	*04/19/21 20:35*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**903**		24.8		mg/Kg			04/20/21 15:32	5

Client Sample ID: PH03

Lab Sample ID: 890-529-5
Matrix: Solid
Date Collected: 04/14/21 12:50
Date Received: 04/15/21 12:22
Sample Depth: - 1.0

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/16/21 12:15	04/17/21 01:53	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/16/21 12:15	04/17/21 01:53	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/16/21 12:15	04/17/21 01:53	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/16/21 12:15	04/17/21 01:53	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/16/21 12:15	04/17/21 01:53	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/16/21 12:15	04/17/21 01:53	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		04/16/21 12:15	04/17/21 01:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*04/16/21 12:15*	*04/17/21 01:53*	*1*
1,4-Difluorobenzene (Surr)	*92*		*70 - 130*	*04/16/21 12:15*	*04/17/21 01:53*	*1*

Client Sample Results

Client: WSP USA Inc. Job ID: 890-529-1
Project/Site: Remuda 500 SDG: TE012921030

Client Sample ID: PH03 Lab Sample ID: 890-529-5

Date Collected: 04/14/21 12:50 **Matrix: Solid**
Date Received: 04/15/21 12:22
Sample Depth: - 1.0

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		04/16/21 16:52	04/19/21 16:13	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/16/21 16:52	04/19/21 16:13	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/16/21 16:52	04/19/21 16:13	1
Total TPH	<50.0	U	50.0		mg/Kg		04/16/21 16:52	04/19/21 16:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*115*		*70 - 130*	*04/16/21 16:52*	*04/19/21 16:13*	*1*
o-Terphenyl	*127*		*70 - 130*	*04/16/21 16:52*	*04/19/21 16:13*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**115**		4.99		mg/Kg			04/20/21 15:48	1

Client Sample ID: PH03A Lab Sample ID: 890-529-6

Date Collected: 04/14/21 13:36 **Matrix: Solid**
Date Received: 04/15/21 12:22
Sample Depth: - 3.0

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/16/21 12:15	04/17/21 02:14	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/16/21 12:15	04/17/21 02:14	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/16/21 12:15	04/17/21 02:14	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		04/16/21 12:15	04/17/21 02:14	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/16/21 12:15	04/17/21 02:14	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		04/16/21 12:15	04/17/21 02:14	1
Total BTEX	<0.00401	U	0.00401		mg/Kg		04/16/21 12:15	04/17/21 02:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*	*04/16/21 12:15*	*04/17/21 02:14*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*04/16/21 12:15*	*04/17/21 02:14*	*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		04/16/21 16:52	04/19/21 16:35	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/16/21 16:52	04/19/21 16:35	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/16/21 16:52	04/19/21 16:35	1
Total TPH	<50.0	U	50.0		mg/Kg		04/16/21 16:52	04/19/21 16:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*110*		*70 - 130*	*04/16/21 16:52*	*04/19/21 16:35*	*1*
o-Terphenyl	*113*		*70 - 130*	*04/16/21 16:52*	*04/19/21 16:35*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**165**		24.9		mg/Kg			04/20/21 15:53	5

Client Sample Results

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

Job ID: 890-529-1
SDG: TE012921030

Client Sample ID: PH04

Lab Sample ID: 890-529-7
Matrix: Solid
Date Collected: 04/14/21 13:52
Date Received: 04/15/21 12:22
Sample Depth: - 1.0

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/16/21 12:15	04/17/21 02:34	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/16/21 12:15	04/17/21 02:34	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/16/21 12:15	04/17/21 02:34	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		04/16/21 12:15	04/17/21 02:34	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/16/21 12:15	04/17/21 02:34	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		04/16/21 12:15	04/17/21 02:34	1
Total BTEX	<0.00401	U	0.00401		mg/Kg		04/16/21 12:15	04/17/21 02:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*04/16/21 12:15*	*04/17/21 02:34*	*1*
1,4-Difluorobenzene (Surr)	*102*		*70 - 130*	*04/16/21 12:15*	*04/17/21 02:34*	*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		04/16/21 16:52	04/19/21 16:58	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/16/21 16:52	04/19/21 16:58	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/16/21 16:52	04/19/21 16:58	1
Total TPH	<50.0	U	50.0		mg/Kg		04/16/21 16:52	04/19/21 16:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*04/16/21 16:52*	*04/19/21 16:58*	*1*
o-Terphenyl	*112*		*70 - 130*	*04/16/21 16:52*	*04/19/21 16:58*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**41.4**		5.00		mg/Kg			04/20/21 15:58	1

Client Sample ID: PH04A

Lab Sample ID: 890-529-8
Matrix: Solid
Date Collected: 04/14/21 14:05
Date Received: 04/15/21 12:22
Sample Depth: - 3.0

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		04/16/21 12:15	04/17/21 02:55	1
Toluene	<0.00202	U	0.00202		mg/Kg		04/16/21 12:15	04/17/21 02:55	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		04/16/21 12:15	04/17/21 02:55	1
m-Xylene & p-Xylene	<0.00404	U	0.00404		mg/Kg		04/16/21 12:15	04/17/21 02:55	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		04/16/21 12:15	04/17/21 02:55	1
Xylenes, Total	<0.00404	U	0.00404		mg/Kg		04/16/21 12:15	04/17/21 02:55	1
Total BTEX	<0.00404	U	0.00404		mg/Kg		04/16/21 12:15	04/17/21 02:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*04/16/21 12:15*	*04/17/21 02:55*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*04/16/21 12:15*	*04/17/21 02:55*	*1*

Client Sample Results

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

Job ID: 890-529-1
SDG: TE012921030

Client Sample ID: PH04A

Lab Sample ID: 890-529-8
Matrix: Solid
Date Collected: 04/14/21 14:05
Date Received: 04/15/21 12:22
Sample Depth: - 3.0

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		04/16/21 16:52	04/19/21 17:20	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/16/21 16:52	04/19/21 17:20	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/16/21 16:52	04/19/21 17:20	1
Total TPH	<49.9	U	49.9		mg/Kg		04/16/21 16:52	04/19/21 17:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*104*		*70 - 130*	*04/16/21 16:52*	*04/19/21 17:20*	*1*
o-Terphenyl	*101*		*70 - 130*	*04/16/21 16:52*	*04/19/21 17:20*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**65.5**		5.00		mg/Kg			04/20/21 16:03	1

Client Sample ID: PH05

Lab Sample ID: 890-529-9
Matrix: Solid
Date Collected: 04/14/21 14:11
Date Received: 04/15/21 12:22
Sample Depth: - 1.0

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00202	U	0.00202		mg/Kg		04/16/21 12:15	04/17/21 03:15	1
Toluene	<0.00202	U	0.00202		mg/Kg		04/16/21 12:15	04/17/21 03:15	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		04/16/21 12:15	04/17/21 03:15	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		04/16/21 12:15	04/17/21 03:15	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		04/16/21 12:15	04/17/21 03:15	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		04/16/21 12:15	04/17/21 03:15	1
Total BTEX	<0.00403	U	0.00403		mg/Kg		04/16/21 12:15	04/17/21 03:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*04/16/21 12:15*	*04/17/21 03:15*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*04/16/21 12:15*	*04/17/21 03:15*	*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		04/16/21 16:52	04/19/21 17:42	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/16/21 16:52	04/19/21 17:42	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/16/21 16:52	04/19/21 17:42	1
Total TPH	<49.9	U	49.9		mg/Kg		04/16/21 16:52	04/19/21 17:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*116*		*70 - 130*	*04/16/21 16:52*	*04/19/21 17:42*	*1*
o-Terphenyl	*138*	*S1+*	*70 - 130*	*04/16/21 16:52*	*04/19/21 17:42*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**195**		25.2		mg/Kg			04/20/21 16:08	5

Eurofins Xenco, Carlsbad

Client Sample Results

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

Job ID: 890-529-1
SDG: TE012921030

Client Sample ID: PH05A

Lab Sample ID: 890-529-10
Matrix: Solid
Date Collected: 04/14/21 14:18
Date Received: 04/15/21 12:22
Sample Depth: - 3.0

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		04/16/21 12:15	04/17/21 03:35	1
Toluene	<0.00201	U	0.00201		mg/Kg		04/16/21 12:15	04/17/21 03:35	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		04/16/21 12:15	04/17/21 03:35	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		04/16/21 12:15	04/17/21 03:35	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		04/16/21 12:15	04/17/21 03:35	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		04/16/21 12:15	04/17/21 03:35	1
Total BTEX	<0.00402	U	0.00402		mg/Kg		04/16/21 12:15	04/17/21 03:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*04/16/21 12:15*	*04/17/21 03:35*	*1*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*	*04/16/21 12:15*	*04/17/21 03:35*	*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		04/16/21 16:52	04/19/21 18:03	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/16/21 16:52	04/19/21 18:03	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/16/21 16:52	04/19/21 18:03	1
Total TPH	<50.0	U	50.0		mg/Kg		04/16/21 16:52	04/19/21 18:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*107*		*70 - 130*	*04/16/21 16:52*	*04/19/21 18:03*	*1*
o-Terphenyl	*131*	*S1+*	*70 - 130*	*04/16/21 16:52*	*04/19/21 18:03*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**70.4**		5.04		mg/Kg			04/20/21 16:13	1

Client Sample ID: PH06

Lab Sample ID: 890-529-11
Matrix: Solid
Date Collected: 04/14/21 14:50
Date Received: 04/15/21 12:22
Sample Depth: - 1.0

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		04/16/21 12:15	04/17/21 03:56	1
Toluene	<0.00201	U	0.00201		mg/Kg		04/16/21 12:15	04/17/21 03:56	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		04/16/21 12:15	04/17/21 03:56	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		04/16/21 12:15	04/17/21 03:56	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		04/16/21 12:15	04/17/21 03:56	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		04/16/21 12:15	04/17/21 03:56	1
Total BTEX	<0.00402	U	0.00402		mg/Kg		04/16/21 12:15	04/17/21 03:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*04/16/21 12:15*	*04/17/21 03:56*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*04/16/21 12:15*	*04/17/21 03:56*	*1*

Client Sample Results

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

Job ID: 890-529-1
SDG: TE012921030

Client Sample ID: PH06

Lab Sample ID: 890-529-11
Matrix: Solid
Date Collected: 04/14/21 14:50
Date Received: 04/15/21 12:22
Sample Depth: - 1.0

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		04/16/21 16:52	04/19/21 18:46	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/16/21 16:52	04/19/21 18:46	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/16/21 16:52	04/19/21 18:46	1
Total TPH	<49.9	U	49.9		mg/Kg		04/16/21 16:52	04/19/21 18:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*04/16/21 16:52*	*04/19/21 18:46*	*1*
o-Terphenyl	*135*	*S1+*	*70 - 130*	*04/16/21 16:52*	*04/19/21 18:46*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**287**		25.0		mg/Kg			04/20/21 16:18	5

Client Sample ID: PH06A

Lab Sample ID: 890-529-12
Matrix: Solid
Date Collected: 04/14/21 14:59
Date Received: 04/15/21 12:22
Sample Depth: - 3.0

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/16/21 12:15	04/17/21 04:16	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/16/21 12:15	04/17/21 04:16	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/16/21 12:15	04/17/21 04:16	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		04/16/21 12:15	04/17/21 04:16	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/16/21 12:15	04/17/21 04:16	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		04/16/21 12:15	04/17/21 04:16	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		04/16/21 12:15	04/17/21 04:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*04/16/21 12:15*	*04/17/21 04:16*	*1*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*	*04/16/21 12:15*	*04/17/21 04:16*	*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		04/16/21 16:52	04/19/21 19:08	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		04/16/21 16:52	04/19/21 19:08	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		04/16/21 16:52	04/19/21 19:08	1
Total TPH	<49.8	U	49.8		mg/Kg		04/16/21 16:52	04/19/21 19:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*114*		*70 - 130*	*04/16/21 16:52*	*04/19/21 19:08*	*1*
o-Terphenyl	*136*	*S1+*	*70 - 130*	*04/16/21 16:52*	*04/19/21 19:08*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**389**		24.8		mg/Kg			04/22/21 11:20	5

Client Sample Results

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

Job ID: 890-529-1
SDG: TE012921030

Client Sample ID: PH07

Date Collected: 04/14/21 15:13
Date Received: 04/15/21 12:22
Sample Depth: - 1.0

Lab Sample ID: 890-529-13
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		04/16/21 15:25	04/19/21 16:01	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/16/21 15:25	04/19/21 16:01	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/16/21 15:25	04/19/21 16:01	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		04/16/21 15:25	04/19/21 16:01	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/16/21 15:25	04/19/21 16:01	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		04/16/21 15:25	04/19/21 16:01	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		04/16/21 15:25	04/19/21 16:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*04/16/21 15:25*	*04/19/21 16:01*	*1*
1,4-Difluorobenzene (Surr)	*120*		*70 - 130*	*04/16/21 15:25*	*04/19/21 16:01*	*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		04/16/21 16:52	04/19/21 19:30	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/16/21 16:52	04/19/21 19:30	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/16/21 16:52	04/19/21 19:30	1
Total TPH	<50.0	U	50.0		mg/Kg		04/16/21 16:52	04/19/21 19:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*04/16/21 16:52*	*04/19/21 19:30*	*1*
o-Terphenyl	*104*		*70 - 130*	*04/16/21 16:52*	*04/19/21 19:30*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**725**		4.95		mg/Kg			04/22/21 11:28	1

Client Sample ID: PH07A

Date Collected: 04/14/21 15:21
Date Received: 04/15/21 12:22
Sample Depth: - 3.0

Lab Sample ID: 890-529-14
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		04/16/21 15:25	04/19/21 16:22	1
Toluene	<0.00199	U	0.00199		mg/Kg		04/16/21 15:25	04/19/21 16:22	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		04/16/21 15:25	04/19/21 16:22	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		04/16/21 15:25	04/19/21 16:22	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		04/16/21 15:25	04/19/21 16:22	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		04/16/21 15:25	04/19/21 16:22	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		04/16/21 15:25	04/19/21 16:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*120*		*70 - 130*	*04/16/21 15:25*	*04/19/21 16:22*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*04/16/21 15:25*	*04/19/21 16:22*	*1*

Client Sample Results

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

Job ID: 890-529-1
SDG: TE012921030

Client Sample ID: PH07A

Date Collected: 04/14/21 15:21
Date Received: 04/15/21 12:22
Sample Depth: - 3.0

Lab Sample ID: 890-529-14

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	<49.9	U	49.9		mg/Kg		04/16/21 16:52	04/19/21 19:52	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		04/16/21 16:52	04/19/21 19:52	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		04/16/21 16:52	04/19/21 19:52	1
Total TPH	<49.9	U	49.9		mg/Kg		04/16/21 16:52	04/19/21 19:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*118*		*70 - 130*	*04/16/21 16:52*	*04/19/21 19:52*	*1*
o-Terphenyl	*120*		*70 - 130*	*04/16/21 16:52*	*04/19/21 19:52*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**101**		5.00		mg/Kg			04/22/21 11:35	1

Surrogate Summary

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

Job ID: 890-529-1
SDG: TE012921030

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)										
890-529-1	PH01	109	107										
890-529-2	PH01A	110	107										
890-529-3	PH02	107	103										
890-529-4	PH02A	108	108										
890-529-5	PH03	120	92										
890-529-6	PH03A	124	99										
890-529-7	PH04	113	102										
890-529-8	PH04A	110	107										
890-529-9	PH05	113	104										
890-529-10	PH05A	108	106										
890-529-11	PH06	113	108										
890-529-12	PH06A	110	105										
890-529-13	PH07	99	120										
890-529-14	PH07A	120	103										
LCS 880-1895/1-A	Lab Control Sample	100	106										
LCS 880-1901/1-A	Lab Control Sample	89	108										
LCSD 880-1895/2-A	Lab Control Sample Dup	101	105										
LCSD 880-1901/2-A	Lab Control Sample Dup	88	108										
MB 880-1895/5-A	Method Blank	99	103										
MB 880-1901/5-A	Method Blank	109	89										

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)										
890-529-1	PH01	114	125										
890-529-1 MS	PH01	124	109										
890-529-1 MSD	PH01	118	98										
890-529-2	PH01A	119	123										
890-529-3	PH02	112	127										
890-529-4	PH02A	112	118										
890-529-5	PH03	115	127										
890-529-6	PH03A	110	113										
890-529-7	PH04	112	112										
890-529-8	PH04A	104	101										
890-529-9	PH05	116	138 S1+										
890-529-10	PH05A	107	131 S1+										
890-529-11	PH06	112	135 S1+										
890-529-12	PH06A	114	136 S1+										
890-529-13	PH07	101	104										
890-529-14	PH07A	118	120										
LCS 880-1907/2-A	Lab Control Sample	108	125										
LCSD 880-1907/3-A	Lab Control Sample Dup	119	105										
MB 880-1907/1-A	Method Blank	117	139 S1+										

Surrogate Summary

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

Job ID: 890-529-1
SDG: TE012921030

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

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

Job ID: 890-529-1
SDG: TE012921030

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-1895/5-A
Matrix: Solid
Analysis Batch: 1905

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1895

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/16/21 12:15	04/16/21 19:50	1
Toluene	<0.00200	U	0.00200		mg/Kg		04/16/21 12:15	04/16/21 19:50	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/16/21 12:15	04/16/21 19:50	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/16/21 12:15	04/16/21 19:50	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/16/21 12:15	04/16/21 19:50	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/16/21 12:15	04/16/21 19:50	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		04/16/21 12:15	04/16/21 19:50	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*	*04/16/21 12:15*	*04/16/21 19:50*	*1*
1,4-Difluorobenzene (Surr)	*103*		*70 - 130*	*04/16/21 12:15*	*04/16/21 19:50*	*1*

Lab Sample ID: LCS 880-1895/1-A
Matrix: Solid
Analysis Batch: 1905

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1895

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.08670		mg/Kg		87	70 - 130		
Toluene			0.100	0.09622		mg/Kg		96	70 - 130		
Ethylbenzene			0.100	0.1019		mg/Kg		102	70 - 130		
m-Xylene & p-Xylene			0.200	0.2078		mg/Kg		104	70 - 130		
o-Xylene			0.100	0.1015		mg/Kg		102	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*
1,4-Difluorobenzene (Surr)	*106*		*70 - 130*

Lab Sample ID: LCSD 880-1895/2-A
Matrix: Solid
Analysis Batch: 1905

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 1895

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.08446		mg/Kg		84	70 - 130	3	35
Toluene			0.100	0.09074		mg/Kg		91	70 - 130	6	35
Ethylbenzene			0.100	0.09413		mg/Kg		94	70 - 130	8	35
m-Xylene & p-Xylene			0.200	0.1926		mg/Kg		96	70 - 130	8	35
o-Xylene			0.100	0.09473		mg/Kg		95	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: MB 880-1901/5-A
Matrix: Solid
Analysis Batch: 1966

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1901

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		04/16/21 15:25	04/19/21 13:34	1

QC Sample Results

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

Job ID: 890-529-1
SDG: TE012921030

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

Lab Sample ID: MB 880-1901/5-A
Matrix: Solid
Analysis Batch: 1966

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1901

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Toluene	<0.00200	U	0.00200		mg/Kg		04/16/21 15:25	04/19/21 13:34	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		04/16/21 15:25	04/19/21 13:34	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		04/16/21 15:25	04/19/21 13:34	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		04/16/21 15:25	04/19/21 13:34	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		04/16/21 15:25	04/19/21 13:34	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		04/16/21 15:25	04/19/21 13:34	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*04/16/21 15:25*	*04/19/21 13:34*	*1*
1,4-Difluorobenzene (Surr)	*89*		*70 - 130*	*04/16/21 15:25*	*04/19/21 13:34*	*1*

Lab Sample ID: LCS 880-1901/1-A
Matrix: Solid
Analysis Batch: 1966

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1901

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.09330		mg/Kg		93	70 - 130		
Toluene			0.100	0.09946		mg/Kg		99	70 - 130		
Ethylbenzene			0.100	0.09902		mg/Kg		99	70 - 130		
m-Xylene & p-Xylene			0.200	0.1966		mg/Kg		98	70 - 130		
o-Xylene			0.100	0.09692		mg/Kg		97	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

Lab Sample ID: LCSD 880-1901/2-A
Matrix: Solid
Analysis Batch: 1966

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 1901

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.09251		mg/Kg		93	70 - 130	1	35
Toluene			0.100	0.09484		mg/Kg		95	70 - 130	5	35
Ethylbenzene			0.100	0.09385		mg/Kg		94	70 - 130	5	35
m-Xylene & p-Xylene			0.200	0.1858		mg/Kg		93	70 - 130	6	35
o-Xylene			0.100	0.09071		mg/Kg		91	70 - 130	7	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*

QC Sample Results

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

Job ID: 890-529-1
SDG: TE012921030

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

Lab Sample ID: MB 880-1907/1-A
Matrix: Solid
Analysis Batch: 1967

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 1907

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		04/16/21 16:52	04/19/21 12:53	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		04/16/21 16:52	04/19/21 12:53	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		04/16/21 16:52	04/19/21 12:53	1
Total TPH	<50.0	U	50.0		mg/Kg		04/16/21 16:52	04/19/21 12:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*117*		*70 - 130*	*04/16/21 16:52*	*04/19/21 12:53*	*1*
o-Terphenyl	*139*	*S1+*	*70 - 130*	*04/16/21 16:52*	*04/19/21 12:53*	*1*

Lab Sample ID: LCS 880-1907/2-A
Matrix: Solid
Analysis Batch: 1967

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 1907

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	960.7		mg/Kg		96	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1046		mg/Kg		105	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*108*		*70 - 130*
o-Terphenyl	*125*		*70 - 130*

Lab Sample ID: LCSD 880-1907/3-A
Matrix: Solid
Analysis Batch: 1967

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 1907

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1157		mg/Kg		116	70 - 130	19	20
Diesel Range Organics (Over C10-C28)			1000	948.8		mg/Kg		95	70 - 130	10	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*119*		*70 - 130*
o-Terphenyl	*105*		*70 - 130*

Lab Sample ID: 890-529-1 MS
Matrix: Solid
Analysis Batch: 1967

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 1907

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.9	U	998	1230		mg/Kg		123	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.9	U	998	1067		mg/Kg		107	70 - 130		

QC Sample Results

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

Job ID: 890-529-1
SDG: TE012921030

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

Lab Sample ID: 890-529-1 MS
Matrix: Solid
Analysis Batch: 1967

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 1907

Surrogate	MS %Recovery	MS Qualifier	Limits
1-Chlorooctane	124		70 - 130
o-Terphenyl	109		70 - 130

Lab Sample ID: 890-529-1 MSD
Matrix: Solid
Analysis Batch: 1967

Client Sample ID: PH01
Prep Type: Total/NA
Prep Batch: 1907

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	<49.9	U	998	1155		mg/Kg		116	70 - 130	6	20
Diesel Range Organics (Over C10-C28)	<49.9	U	998	982.6		mg/Kg		98	70 - 130	8	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1-Chlorooctane	118		70 - 130
o-Terphenyl	98		70 - 130

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-1942/1-A
Matrix: Solid
Analysis Batch: 2014

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			04/19/21 17:32	1

Lab Sample ID: LCS 880-1942/2-A
Matrix: Solid
Analysis Batch: 2014

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	254.3		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-1942/3-A
Matrix: Solid
Analysis Batch: 2014

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	258.1		mg/Kg		103	90 - 110	1	20

Lab Sample ID: MB 880-1943/1-A
Matrix: Solid
Analysis Batch: 2049

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			04/20/21 13:46	1

QC Sample Results

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

Job ID: 890-529-1
SDG: TE012921030

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-1943/2-A
Matrix: Solid
Analysis Batch: 2049

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	260.7		mg/Kg		104	90 - 110		

Lab Sample ID: LCSD 880-1943/3-A
Matrix: Solid
Analysis Batch: 2049

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	261.7		mg/Kg		105	90 - 110	0	20

Lab Sample ID: 890-529-2 MS
Matrix: Solid
Analysis Batch: 2049

Client Sample ID: PH01A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	197		250	458.4		mg/Kg		105	90 - 110		

Lab Sample ID: 890-529-2 MSD
Matrix: Solid
Analysis Batch: 2049

Client Sample ID: PH01A
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	197		250	456.9		mg/Kg		104	90 - 110	0	20

Lab Sample ID: MB 880-1944/1-A
Matrix: Solid
Analysis Batch: 2050

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			04/22/21 09:50	1

Lab Sample ID: LCS 880-1944/2-A
Matrix: Solid
Analysis Batch: 2050

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	239.5		mg/Kg		96	90 - 110		

Lab Sample ID: LCSD 880-1944/3-A
Matrix: Solid
Analysis Batch: 2050

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	238.7		mg/Kg		95	90 - 110	0	20

QC Association Summary

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

Job ID: 890-529-1
SDG: TE012921030

GC VOA

Prep Batch: 1895

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-529-1	PH01	Total/NA	Solid	5035	
890-529-2	PH01A	Total/NA	Solid	5035	
890-529-3	PH02	Total/NA	Solid	5035	
890-529-4	PH02A	Total/NA	Solid	5035	
890-529-5	PH03	Total/NA	Solid	5035	
890-529-6	PH03A	Total/NA	Solid	5035	
890-529-7	PH04	Total/NA	Solid	5035	
890-529-8	PH04A	Total/NA	Solid	5035	
890-529-9	PH05	Total/NA	Solid	5035	
890-529-10	PH05A	Total/NA	Solid	5035	
890-529-11	PH06	Total/NA	Solid	5035	
890-529-12	PH06A	Total/NA	Solid	5035	
MB 880-1895/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-1895/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-1895/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Prep Batch: 1901

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-529-13	PH07	Total/NA	Solid	5035	
890-529-14	PH07A	Total/NA	Solid	5035	
MB 880-1901/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-1901/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-1901/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 1905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-529-1	PH01	Total/NA	Solid	8021B	1895
890-529-2	PH01A	Total/NA	Solid	8021B	1895
890-529-3	PH02	Total/NA	Solid	8021B	1895
890-529-4	PH02A	Total/NA	Solid	8021B	1895
890-529-5	PH03	Total/NA	Solid	8021B	1895
890-529-6	PH03A	Total/NA	Solid	8021B	1895
890-529-7	PH04	Total/NA	Solid	8021B	1895
890-529-8	PH04A	Total/NA	Solid	8021B	1895
890-529-9	PH05	Total/NA	Solid	8021B	1895
890-529-10	PH05A	Total/NA	Solid	8021B	1895
890-529-11	PH06	Total/NA	Solid	8021B	1895
890-529-12	PH06A	Total/NA	Solid	8021B	1895
MB 880-1895/5-A	Method Blank	Total/NA	Solid	8021B	1895
LCS 880-1895/1-A	Lab Control Sample	Total/NA	Solid	8021B	1895
LCSD 880-1895/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	1895

Analysis Batch: 1966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-529-13	PH07	Total/NA	Solid	8021B	1901
890-529-14	PH07A	Total/NA	Solid	8021B	1901
MB 880-1901/5-A	Method Blank	Total/NA	Solid	8021B	1901
LCS 880-1901/1-A	Lab Control Sample	Total/NA	Solid	8021B	1901
LCSD 880-1901/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	1901

QC Association Summary

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

Job ID: 890-529-1
SDG: TE012921030

GC Semi VOA

Prep Batch: 1907

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-529-1	PH01	Total/NA	Solid	8015NM Prep	
890-529-2	PH01A	Total/NA	Solid	8015NM Prep	
890-529-3	PH02	Total/NA	Solid	8015NM Prep	
890-529-4	PH02A	Total/NA	Solid	8015NM Prep	
890-529-5	PH03	Total/NA	Solid	8015NM Prep	
890-529-6	PH03A	Total/NA	Solid	8015NM Prep	
890-529-7	PH04	Total/NA	Solid	8015NM Prep	
890-529-8	PH04A	Total/NA	Solid	8015NM Prep	
890-529-9	PH05	Total/NA	Solid	8015NM Prep	
890-529-10	PH05A	Total/NA	Solid	8015NM Prep	
890-529-11	PH06	Total/NA	Solid	8015NM Prep	
890-529-12	PH06A	Total/NA	Solid	8015NM Prep	
890-529-13	PH07	Total/NA	Solid	8015NM Prep	
890-529-14	PH07A	Total/NA	Solid	8015NM Prep	
MB 880-1907/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-1907/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-1907/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-529-1 MS	PH01	Total/NA	Solid	8015NM Prep	
890-529-1 MSD	PH01	Total/NA	Solid	8015NM Prep	

Analysis Batch: 1967

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-529-1	PH01	Total/NA	Solid	8015B NM	1907
890-529-2	PH01A	Total/NA	Solid	8015B NM	1907
890-529-3	PH02	Total/NA	Solid	8015B NM	1907
890-529-4	PH02A	Total/NA	Solid	8015B NM	1907
890-529-5	PH03	Total/NA	Solid	8015B NM	1907
890-529-6	PH03A	Total/NA	Solid	8015B NM	1907
890-529-7	PH04	Total/NA	Solid	8015B NM	1907
890-529-8	PH04A	Total/NA	Solid	8015B NM	1907
890-529-9	PH05	Total/NA	Solid	8015B NM	1907
890-529-10	PH05A	Total/NA	Solid	8015B NM	1907
890-529-11	PH06	Total/NA	Solid	8015B NM	1907
890-529-12	PH06A	Total/NA	Solid	8015B NM	1907
890-529-13	PH07	Total/NA	Solid	8015B NM	1907
890-529-14	PH07A	Total/NA	Solid	8015B NM	1907
MB 880-1907/1-A	Method Blank	Total/NA	Solid	8015B NM	1907
LCS 880-1907/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	1907
LCSD 880-1907/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	1907
890-529-1 MS	PH01	Total/NA	Solid	8015B NM	1907
890-529-1 MSD	PH01	Total/NA	Solid	8015B NM	1907

HPLC/IC

Leach Batch: 1942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-529-1	PH01	Soluble	Solid	DI Leach	
MB 880-1942/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-1942/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-1942/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

QC Association Summary

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

Job ID: 890-529-1
SDG: TE012921030

HPLC/IC

Leach Batch: 1943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-529-2	PH01A	Soluble	Solid	DI Leach	
890-529-3	PH02	Soluble	Solid	DI Leach	
890-529-4	PH02A	Soluble	Solid	DI Leach	
890-529-5	PH03	Soluble	Solid	DI Leach	
890-529-6	PH03A	Soluble	Solid	DI Leach	
890-529-7	PH04	Soluble	Solid	DI Leach	
890-529-8	PH04A	Soluble	Solid	DI Leach	
890-529-9	PH05	Soluble	Solid	DI Leach	
890-529-10	PH05A	Soluble	Solid	DI Leach	
890-529-11	PH06	Soluble	Solid	DI Leach	
MB 880-1943/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-1943/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-1943/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-529-2 MS	PH01A	Soluble	Solid	DI Leach	
890-529-2 MSD	PH01A	Soluble	Solid	DI Leach	

Leach Batch: 1944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-529-12	PH06A	Soluble	Solid	DI Leach	
890-529-13	PH07	Soluble	Solid	DI Leach	
890-529-14	PH07A	Soluble	Solid	DI Leach	
MB 880-1944/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-1944/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-1944/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 2014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-529-1	PH01	Soluble	Solid	300.0	1942
MB 880-1942/1-A	Method Blank	Soluble	Solid	300.0	1942
LCS 880-1942/2-A	Lab Control Sample	Soluble	Solid	300.0	1942
LCSD 880-1942/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	1942

Analysis Batch: 2049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-529-2	PH01A	Soluble	Solid	300.0	1943
890-529-3	PH02	Soluble	Solid	300.0	1943
890-529-4	PH02A	Soluble	Solid	300.0	1943
890-529-5	PH03	Soluble	Solid	300.0	1943
890-529-6	PH03A	Soluble	Solid	300.0	1943
890-529-7	PH04	Soluble	Solid	300.0	1943
890-529-8	PH04A	Soluble	Solid	300.0	1943
890-529-9	PH05	Soluble	Solid	300.0	1943
890-529-10	PH05A	Soluble	Solid	300.0	1943
890-529-11	PH06	Soluble	Solid	300.0	1943
MB 880-1943/1-A	Method Blank	Soluble	Solid	300.0	1943
LCS 880-1943/2-A	Lab Control Sample	Soluble	Solid	300.0	1943
LCSD 880-1943/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	1943
890-529-2 MS	PH01A	Soluble	Solid	300.0	1943
890-529-2 MSD	PH01A	Soluble	Solid	300.0	1943

QC Association Summary

Client: WSP USA Inc. Job ID: 890-529-1
Project/Site: Remuda 500 SDG: TE012921030

HPLC/IC

Analysis Batch: 2050

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-529-12	PH06A	Soluble	Solid	300.0	1944
890-529-13	PH07	Soluble	Solid	300.0	1944
890-529-14	PH07A	Soluble	Solid	300.0	1944
MB 880-1944/1-A	Method Blank	Soluble	Solid	300.0	1944
LCS 880-1944/2-A	Lab Control Sample	Soluble	Solid	300.0	1944
LCSD 880-1944/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	1944

Lab Chronicle

Client: WSP USA Inc. Job ID: 890-529-1
Project/Site: Remuda 500 SDG: TE012921030

Client Sample ID: PH01 Lab Sample ID: 890-529-1

Date Collected: 04/14/21 10:06 **Matrix: Solid**
Date Received: 04/15/21 12:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1895	04/16/21 12:15	MR	XM
Total/NA	Analysis	8021B		1	1905	04/16/21 23:02	MR	XM
Total/NA	Prep	8015NM Prep			1907	04/16/21 16:52	DM	XM
Total/NA	Analysis	8015B NM		1	1967	04/19/21 13:59	AJ	XM
Soluble	Leach	DI Leach			1942	04/17/21 18:36	CH	XM
Soluble	Analysis	300.0		1	2014	04/19/21 20:04	WP	XM

Client Sample ID: PH01A Lab Sample ID: 890-529-2

Date Collected: 04/14/21 10:40 **Matrix: Solid**
Date Received: 04/15/21 12:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1895	04/16/21 12:15	MR	XM
Total/NA	Analysis	8021B		1	1905	04/16/21 23:23	MR	XM
Total/NA	Prep	8015NM Prep			1907	04/16/21 16:52	DM	XM
Total/NA	Analysis	8015B NM		1	1967	04/19/21 15:06	AJ	XM
Soluble	Leach	DI Leach			1943	04/17/21 18:38	CH	XM
Soluble	Analysis	300.0		1	2049	04/20/21 15:12	WP	XM

Client Sample ID: PH02 Lab Sample ID: 890-529-3

Date Collected: 04/14/21 10:59 **Matrix: Solid**
Date Received: 04/15/21 12:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1895	04/16/21 12:15	MR	XM
Total/NA	Analysis	8021B		1	1905	04/17/21 01:12	MR	XM
Total/NA	Prep	8015NM Prep			1907	04/16/21 16:52	DM	XM
Total/NA	Analysis	8015B NM		1	1967	04/19/21 20:14	AJ	XM
Soluble	Leach	DI Leach			1943	04/17/21 18:38	CH	XM
Soluble	Analysis	300.0		1	2049	04/20/21 15:27	WP	XM

Client Sample ID: PH02A Lab Sample ID: 890-529-4

Date Collected: 04/14/21 11:13 **Matrix: Solid**
Date Received: 04/15/21 12:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1895	04/16/21 12:15	MR	XM
Total/NA	Analysis	8021B		1	1905	04/17/21 01:33	MR	XM
Total/NA	Prep	8015NM Prep			1907	04/16/21 16:52	DM	XM
Total/NA	Analysis	8015B NM		1	1967	04/19/21 20:35	AJ	XM
Soluble	Leach	DI Leach			1943	04/17/21 18:38	CH	XM
Soluble	Analysis	300.0		5	2049	04/20/21 15:32	WP	XM

Lab Chronicle

Client: WSP USA Inc. Job ID: 890-529-1
Project/Site: Remuda 500 SDG: TE012921030

Client Sample ID: PH03 Lab Sample ID: 890-529-5

Date Collected: 04/14/21 12:50 **Matrix: Solid**
Date Received: 04/15/21 12:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1895	04/16/21 12:15	MR	XM
Total/NA	Analysis	8021B		1	1905	04/17/21 01:53	MR	XM
Total/NA	Prep	8015NM Prep			1907	04/16/21 16:52	DM	XM
Total/NA	Analysis	8015B NM		1	1967	04/19/21 16:13	AJ	XM
Soluble	Leach	DI Leach			1943	04/17/21 18:38	CH	XM
Soluble	Analysis	300.0		1	2049	04/20/21 15:48	WP	XM

Client Sample ID: PH03A Lab Sample ID: 890-529-6

Date Collected: 04/14/21 13:36 **Matrix: Solid**
Date Received: 04/15/21 12:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1895	04/16/21 12:15	MR	XM
Total/NA	Analysis	8021B		1	1905	04/17/21 02:14	MR	XM
Total/NA	Prep	8015NM Prep			1907	04/16/21 16:52	DM	XM
Total/NA	Analysis	8015B NM		1	1967	04/19/21 16:35	AJ	XM
Soluble	Leach	DI Leach			1943	04/17/21 18:38	CH	XM
Soluble	Analysis	300.0		5	2049	04/20/21 15:53	WP	XM

Client Sample ID: PH04 Lab Sample ID: 890-529-7

Date Collected: 04/14/21 13:52 **Matrix: Solid**
Date Received: 04/15/21 12:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1895	04/16/21 12:15	MR	XM
Total/NA	Analysis	8021B		1	1905	04/17/21 02:34	MR	XM
Total/NA	Prep	8015NM Prep			1907	04/16/21 16:52	DM	XM
Total/NA	Analysis	8015B NM		1	1967	04/19/21 16:58	AJ	XM
Soluble	Leach	DI Leach			1943	04/17/21 18:38	CH	XM
Soluble	Analysis	300.0		1	2049	04/20/21 15:58	WP	XM

Client Sample ID: PH04A Lab Sample ID: 890-529-8

Date Collected: 04/14/21 14:05 **Matrix: Solid**
Date Received: 04/15/21 12:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1895	04/16/21 12:15	MR	XM
Total/NA	Analysis	8021B		1	1905	04/17/21 02:55	MR	XM
Total/NA	Prep	8015NM Prep			1907	04/16/21 16:52	DM	XM
Total/NA	Analysis	8015B NM		1	1967	04/19/21 17:20	AJ	XM
Soluble	Leach	DI Leach			1943	04/17/21 18:38	CH	XM
Soluble	Analysis	300.0		1	2049	04/20/21 16:03	WP	XM

Lab Chronicle

Client: WSP USA Inc. Job ID: 890-529-1
Project/Site: Remuda 500 SDG: TE012921030

Client Sample ID: PH05 Lab Sample ID: 890-529-9

Date Collected: 04/14/21 14:11 **Matrix: Solid**
Date Received: 04/15/21 12:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1895	04/16/21 12:15	MR	XM
Total/NA	Analysis	8021B		1	1905	04/17/21 03:15	MR	XM
Total/NA	Prep	8015NM Prep			1907	04/16/21 16:52	DM	XM
Total/NA	Analysis	8015B NM		1	1967	04/19/21 17:42	AJ	XM
Soluble	Leach	DI Leach			1943	04/17/21 18:38	CH	XM
Soluble	Analysis	300.0		5	2049	04/20/21 16:08	WP	XM

Client Sample ID: PH05A Lab Sample ID: 890-529-10

Date Collected: 04/14/21 14:18 **Matrix: Solid**
Date Received: 04/15/21 12:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1895	04/16/21 12:15	MR	XM
Total/NA	Analysis	8021B		1	1905	04/17/21 03:35	MR	XM
Total/NA	Prep	8015NM Prep			1907	04/16/21 16:52	DM	XM
Total/NA	Analysis	8015B NM		1	1967	04/19/21 18:03	AJ	XM
Soluble	Leach	DI Leach			1943	04/17/21 18:38	CH	XM
Soluble	Analysis	300.0		1	2049	04/20/21 16:13	WP	XM

Client Sample ID: PH06 Lab Sample ID: 890-529-11

Date Collected: 04/14/21 14:50 **Matrix: Solid**
Date Received: 04/15/21 12:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1895	04/16/21 12:15	MR	XM
Total/NA	Analysis	8021B		1	1905	04/17/21 03:56	MR	XM
Total/NA	Prep	8015NM Prep			1907	04/16/21 16:52	DM	XM
Total/NA	Analysis	8015B NM		1	1967	04/19/21 18:46	AJ	XM
Soluble	Leach	DI Leach			1943	04/17/21 18:38	CH	XM
Soluble	Analysis	300.0		5	2049	04/20/21 16:18	WP	XM

Client Sample ID: PH06A Lab Sample ID: 890-529-12

Date Collected: 04/14/21 14:59 **Matrix: Solid**
Date Received: 04/15/21 12:22

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1895	04/16/21 12:15	MR	XM
Total/NA	Analysis	8021B		1	1905	04/17/21 04:16	MR	XM
Total/NA	Prep	8015NM Prep			1907	04/16/21 16:52	DM	XM
Total/NA	Analysis	8015B NM		1	1967	04/19/21 19:08	AJ	XM
Soluble	Leach	DI Leach			1944	04/17/21 18:39	CH	XM
Soluble	Analysis	300.0		5	2050	04/22/21 11:20	WP	XM

Lab Chronicle

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

Job ID: 890-529-1
SDG: TE012921030

Client Sample ID: PH07

Date Collected: 04/14/21 15:13
Date Received: 04/15/21 12:22

Lab Sample ID: 890-529-13

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1901	04/16/21 15:25	MR	XM
Total/NA	Analysis	8021B		1	1966	04/19/21 16:01	KL	XM
Total/NA	Prep	8015NM Prep			1907	04/16/21 16:52	DM	XM
Total/NA	Analysis	8015B NM		1	1967	04/19/21 19:30	AJ	XM
Soluble	Leach	DI Leach			1944	04/17/21 18:39	CH	XM
Soluble	Analysis	300.0		1	2050	04/22/21 11:28	WP	XM

Client Sample ID: PH07A

Date Collected: 04/14/21 15:21
Date Received: 04/15/21 12:22

Lab Sample ID: 890-529-14

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			1901	04/16/21 15:25	MR	XM
Total/NA	Analysis	8021B		1	1966	04/19/21 16:22	KL	XM
Total/NA	Prep	8015NM Prep			1907	04/16/21 16:52	DM	XM
Total/NA	Analysis	8015B NM		1	1967	04/19/21 19:52	AJ	XM
Soluble	Leach	DI Leach			1944	04/17/21 18:39	CH	XM
Soluble	Analysis	300.0		1	2050	04/22/21 11:35	WP	XM

Laboratory References:

XM = 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: 890-529-1
SDG: TE012921030

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	T104704400-20-21	06-30-21

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
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

Method Summary

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

Job ID: 890-529-1
SDG: TE012921030

Method	Method Description	Protocol	Laboratory
8021B	Volatile Organic Compounds (GC)	SW846	XM
8015B NM	Diesel Range Organics (DRO) (GC)	SW846	XM
300.0	Anions, Ion Chromatography	MCAWW	XM
5035	Closed System Purge and Trap	SW846	XM
8015NM Prep	Microextraction	SW846	XM
DI Leach	Deionized Water Leaching Procedure	ASTM	XM

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.

Laboratory References:

XM = 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: 890-529-1
SDG: TE012921030

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-529-1	PH01	Solid	04/14/21 10:06	04/15/21 12:22	- 1.0
890-529-2	PH01A	Solid	04/14/21 10:40	04/15/21 12:22	- 3.0
890-529-3	PH02	Solid	04/14/21 10:59	04/15/21 12:22	- 1.0
890-529-4	PH02A	Solid	04/14/21 11:13	04/15/21 12:22	- 3.0
890-529-5	PH03	Solid	04/14/21 12:50	04/15/21 12:22	- 1.0
890-529-6	PH03A	Solid	04/14/21 13:36	04/15/21 12:22	- 3.0
890-529-7	PH04	Solid	04/14/21 13:52	04/15/21 12:22	- 1.0
890-529-8	PH04A	Solid	04/14/21 14:05	04/15/21 12:22	- 3.0
890-529-9	PH05	Solid	04/14/21 14:11	04/15/21 12:22	- 1.0
890-529-10	PH05A	Solid	04/14/21 14:18	04/15/21 12:22	- 3.0
890-529-11	PH06	Solid	04/14/21 14:50	04/15/21 12:22	- 1.0
890-529-12	PH06A	Solid	04/14/21 14:59	04/15/21 12:22	- 3.0
890-529-13	PH07	Solid	04/14/21 15:13	04/15/21 12:22	- 1.0
890-529-14	PH07A	Solid	04/14/21 15:21	04/15/21 12:22	- 3.0

Chain of Custody

Work Order No: _____

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)
www.xenco.com

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	WSP USA	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	522 W. Mermod St.
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	Jeremy.Hill@wsp.com, Dan.Moir@wsp.com

Work Order Comments

Program: UST/PST ☐ RP ☐ Brownfields ☐ RC ☐ Superfund ☐

State of Project:

Reporting:Level II ☐ Level III ☐ ST/UST ☐ RP ☐ Level IV ☐

Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Remuda 500	Turn Around	
Project Number:	TE01892030	Routine	☑
P.O. Number:	Spill Date 2/8/21	Rush:	
Sampler's Name:	Jeremy Hill	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes (No)	Wet Ice:	(Yes) No	
Temperature (°C):	4.6	Thermometer ID		
Received Intact:	(Yes) No	T-NM-007		
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	4.4	
Sample Custody Seals:	Yes (No) N/A	Total Containers:		

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
Pit01	S	4/14/21	1006	1.0'	1	X	X	X	Discrete
Pit01A			1040	3.0'					
Pit02			1059	1.0'					
Pit02A			1113	3.0'					
Pit03			1250	1.0'					
Pit03A			1336	3.0'					
Pit04			1352	1.0'					
Pit04A			1405	3.0'					
Pit05			1411	1.0'					
Pit05A			1418	3.0'					

890-529 Chain of Custody

Work Order Notes

CC: 10676010001
Incl NAPP2104347351

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

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

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471**: Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Gabby O	4/15/21 17:22	2		
3			4		
5			6		

Revised Date 051418 Rev 2018.1

Chain of Custody

Work Order No: _____

XENCO LABORATORIES

Houston,TX (281) 240-4200 Dallas,TX (214) 902-0300 San Antonio,TX (210) 509-3334
Midland,TX (432-704-5440) EL Paso,TX (915)585-3443 Lubbock,TX (806)794-1296
Hobbs,NM (575-392-7550) Phoenix,AZ (480-355-0900) Atlanta,GA (770-449-8800) Tampa,FL (813-620-2000)
www.xenco.com Page 2 of 2

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	WSP USA	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	522 W. Mermod St.
City, State ZIP:	Midland, TX 79705	City, State ZIP:	Carlsbad, NM 88220
Phone:	(432) 236-3849	Email:	Jeremy.Hill@wsp.com, Dan.Moir@wsp.com

Work Order Comments

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

Project Name:	Remuda 506	Turn Around	
Project Number:	TE01292 1030	Routine	☑
P.O. Number:	Sp. 11 Nbk. 2/8/21	Rush:	
Sampler's Name:	Jeremy Hill	Due Date:	

SAMPLE RECEIPT			
Temp Blank:	(Yes) No	Wet Ice:	(Yes) No
Temperature (°C):	4.6	Thermometer ID	
Received Intact:	(Yes) No	T-NM-007	
Cooler Custody Seals:	Yes (No) N/A	Correction Factor:	4.4
Sample Custody Seals:	Yes (No) N/A	Total Containers:	

ANALYSIS REQUEST

Work Order Notes

CC: 1067601001
Inv: NAPP2104347351

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

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 8021)	Chloride (EPA 300.0)	Sample Comments
Pit06	S	4/14/21	1450	1.0'	1	X	X	X	Discrete
Pit06A			1459	3.0'					
Pit07			1513	1.0'					
Pit07A			1521	3.0'					

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

Circle Method(s) and Metal(s) to be analyzed **TCLP / SPLP 6010**: 8RCRA Sb As Ba Be Cd Cr Co Cu Pb Mn Mo Ni Se Ag Tl U **1631 / 245.1 / 7470 / 7471** : Hg

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	Gabby O	4/15/21 12:22	2		
3			4		
5			6		

Revised Date 051418 Rev 2018 1

Eurofins Xenco, Carlsbad
1089 N Canal St.
Carlsbad NM 88220
Phone 575-988-3199 Fax: 575-988-3199

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer Jessica	Carrier Tracking No(s):	COC No: 890-168 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: jessica kramer@eurofinset.com	State of Origin: New Mexico	Page: Page 1 of 2
Company: Eurofins Xenco		Accreditations Required (See note): NELAP - Louisiana NELAP - Texas		Job #: 890-529-1
Address: 1211 W Florida Ave,	Due Date Requested: 4/21/2021			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email:	WO #:			
Project Name: Remuda 500	Project #: 89000004			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A	HCL	M	Hexane
B	NaOH	N	None
C	Zn Acetate	O	AsNaO2
D	Nitric Acid	P	Na2O4S
E	NaHSO4	Q	Na2SO3
F	MeOH	R	Na2S2O3
G	Amchlor	S	H2SO4
H	Ascorbic Acid	T	TSP Dodecahydrate
I	Ice	U	Acetone
J	DI Water	V	MCAA
K	EDTA	W	pH 4-5
L	EDA	Z	other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8015MOD_NM/8015NM_S_Prep Full TPH	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc BTEX	Total Number of containers	Special Instructions/Note.
			Preservation Code:								
PH01 (890-529-1)	4/14/21	10 06 Mountain		Solid			X	X	X	1	
PH01A (890-529-2)	4/14/21	10 40 Mountain		Solid			X	X	X	1	
PH02 (890-529-3)	4/14/21	10 59 Mountain		Solid			X	X	X	1	
PH02A (890-529-4)	4/14/21	11 13 Mountain		Solid			X	X	X	1	
PH03 (890-529-5)	4/14/21	12 50 Mountain		Solid			X	X	X	1	
PH03A (890-529-6)	4/14/21	13 36 Mountain		Solid			X	X	X	1	
PH04 (890-529-7)	4/14/21	13 52 Mountain		Solid			X	X	X	1	
PH04A (890-529-8)	4/14/21	14 05 Mountain		Solid			X	X	X	1	
PH05 (890-529-9)	4/14/21	14 11 Mountain		Solid			X	X	X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Xenco LLC places the ownership of method analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Xenco LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Xenco LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Xenco LLC

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested I II III IV Other (specify) Primary Deliverable Rank 2	Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by: Gabby Ordonez	Date/Time: 4/15/21	Company	Received by:	Date/Time: 4-16-21 11:30am	Company
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact. Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks

Ver 11/01/2020

Eurofins Xenco, Carlsbad
1089 N Canal St.
Carlsbad NM 88220
Phone 575-988-3199 Fax: 575-988-3199

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer Jessica	Carrier Tracking No(s):	COC No: 890-168 2
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State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: Remuda 500	Project #: 89000004			
Site:	SSOW#:			

Analysis Requested

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L	EDA	Z	other (specify)

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			Preservation Code:								
PH05A (890-529-10)	4/14/21	14 18 Mountain		Solid			X	X	X	1	
PH06 (890-529-11)	4/14/21	14 50 Mountain		Solid			X	X	X	1	
PH06A (890-529-12)	4/14/21	14 59 Mountain		Solid			X	X	X	1	
PH07 (890-529-13)	4/14/21	15 13 Mountain		Solid			X	X	X	1	
PH07A (890-529-14)	4/14/21	15 21 Mountain		Solid			X	X	X	1	

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Empty Kit Relinquished by	Date	Time	Method of Shipment:

Relinquished by: Gabby Ordonez	Date/Time: 4/15/21	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks.

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-529-1
SDG Number: TE012921030

Login Number: 529
List Number: 1
Creator: Ordonez, Gabby

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: WSP USA Inc.

Job Number: 890-529-1
SDG Number: TE012921030

Login Number: 529
List Number: 2
Creator: Copeland, Tatiana

List Source: Eurofins Midland
List Creation: 04/16/21 11:40 AM

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	
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Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
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").	True	

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 27390

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 27390
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NAPP2104347351 REMUDA 500 CTB, thank you. This closure is approved.	8/18/2021