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	NAPP2111852118
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 32.27029 Longitude -103.93655
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Remuda 500	Site Type CTB
Date Release Discovered 04/15/2021	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)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 11.75	Volume Recovered (bbls) 10.0
	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 weld-o-let with a broken nipple and seal released produced water into containment and onto soil. A third-party contractor has been retained for remediation activities.

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2111852118
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC? ☐ Yes ☒ No	If YES, for what reason(s) does the responsible party consider this a major release? 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: Adrian Baker Title: SSHE Coordinator

Signature: Adrian Baker Date: 4/28/21

email: adrian.baker@exxonmobil.com Telephone: 432-221-7331

OCD Only

Received by: Ramona Marcus Date: 5/10/2021

Location:	**Remuda 500 CTB**	
Spill Date:	**4/15/2021**	

Area 1		
Approximate Area =	56.15	cu.ft.
VOLUME OF LEAK		
Total Produced Water =	10.00	bbls
Area 2		
Approximate Area =	571.00	sq. ft.
Average Saturation (or depth) of spill =	1.38	inches
Average Porosity Factor =	0.15	
VOLUME OF LEAK		
Total Produced Water =	1.75	bbls
TOTAL VOLUME OF LEAK		
Total Produced Water =	**11.75**	**bbls**
TOTAL VOLUME RECOVERED		
Total Produced Water =	**10.00**	**bbls**

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 26087

CONDITIONS OF APPROVAL

Operator:	OGRID:	Action Number:	Action Type:
XTO ENERGY, INC 6401 Holiday Hill Road Building #5 Midland, TX79707	5380	26087	C-141

OCD Reviewer	Condition
rmarcus	None

Incident ID	NAPP2111852118
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

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

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

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

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

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

Form C-141
Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2111852118
District RP	
Facility ID	
Application ID	

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

Printed Name: Adrian Baker Title: SSHE Coordinator

Signature: Adrian Baker Date: 6/29/2021

email: Adrian.Baker@exxonmobil.com Telephone: (432)-221-7331

OCD Only

Received by: Date:

Incident ID	NAPP2111852118
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: Adrian Baker Title: SSHE Coordinator

Signature: Adrian Baker Date: 6/29/2021

email: Adrian.Baker@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: Jennifer Nobui Date: 06/08/2022

Printed Name: Jennifer Nobui Title: Environmental Specialist A

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

June 29, 2021

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

RE: Closure Request
Remuda 500 CTB
Incident Number NAPP2111852118
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 CTB (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 a release of produced water at the Site. Based on field observations, field screening activities, and soil sample analytical results, XTO is submitting this Closure Request and requesting no further action (NFA) for Incident Number NAPP2111852118.

RELEASE BACKGROUND

On April 15, 2021, a weld-o-let with a broken nipple and seal released produced water, resulting in the release of 11.75 barrels (bbls) of produced water into containment and onto the well pad. Approximately 10.0 bbls of produced water were recovered. XTO reported the release to the New Mexico Oil Conservation Division (NMOCD) on a Form C-141 on April 28, 2021 and was assigned Incident Number NAPP2111852118.

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). The closest permitted groundwater well with depth to groundwater data is United States Geological Survey (USGS) well 321717103561001, located approximately 1.22 miles north of the Site. The groundwater well was most recently measured in January 2003, with a reported depth to groundwater of 50 feet bgs and an unknown total depth. Ground surface elevation at the groundwater well location is 3,032 feet above mean sea level (amsl), which is approximately 27 feet higher in elevation than the Site. There are two additional groundwater wells within a 2-mile radius of the Site that indicate regional depth to groundwater is between 51-100 feet bgs. The referenced well records are included in Attachment 1.

In an effort to confirm depth to water in the area, a borehole (C 4494) was advanced to a depth of 105 feet bgs via truck-mounted hollow stem auger. The borehole was located approximately 0.33 miles northwest of the Site. The location of borehole C 4494 is depicted on Figure 1. A WSP geologist logged and described soils continuously. The borehole lithologic/soil sampling log is included in Attachment 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 utilizing hydrated bentonite chips. All wells used for depth to groundwater determination are depicted on Figure 1.

The closest continuously flowing or significant watercourse to the Site is a wetland, located approximately 1.08 miles east of the Site. The Site is greater than 200 feet from a lakebed, sinkhole, or playa lake and greater than 300 feet from an occupied residence, school, hospital, institution, church, or wetland. The Site is greater than 1,000 feet to a freshwater well or spring and is not within a 100-year floodplain or overlying a subsurface mine. The Site is not underlain by unstable geology (medium potential karst designation area). Site receptors are identified on Figure 1.

CLOSURE CRITERIA

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

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

SITE ASSESSMENT AND SOIL SAMPLING ACTIVITIES

On May 12, 2021, WSP personnel visited the Site to evaluate the release extent based on information provided on the Form C-141 and visual observations. WSP personnel collected two preliminary assessment soil samples (SS01 and SS02) within the release extent from a depth of approximately 0.5 feet bgs to assess for the presence or absence of soil impacts at the ground surface. 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 through 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 vertical assessment activities were scheduled.

On May 17, 2021, WSP personnel returned to the Site to oversee additional soil assessment activities. Two boreholes BH01 and BH02, were advanced via hand auger to depths ranging from approximately 1-foot bgs and 3 feet bgs within the release extent. Boreholes BH01 and BH02 were advanced at the SS01 and SS02 preliminary soil sample locations, respectively. Delineation soil samples were collected from the boreholes at depths ranging from 1-foot bgs to 3 feet bgs. Soil from the boreholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a PID and Hach© chloride QuanTab© test strips, respectively. Field screening results and observations for each borehole were logged on lithologic/soil sampling logs, which are included in Attachment 2. The pothole and delineation soil sample locations are presented on Figure 2. The delineation soil samples were collected, handled, and analyzed as described above at Eurofins in Carlsbad, New Mexico. All boreholes were backfilled with soil removed. Photographic documentation was conducted during the site visits. A photographic log is included in Attachment 3.

ANALYTICAL RESULTS

Laboratory analytical results for preliminary soil samples SS01 and SS02 and delineation soil samples collected from boreholes BH01 through BH02 indicated that benzene, BTEX, TPH-GRO, TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. In addition, soil concentrations of benzene, BTEX, TPH and chloride from BH02 collected at 3 feet bgs are in compliance with the strictest Table 1 Closure Criteria. Laboratory analytical results are summarized in Table 1 and the complete laboratory analytical reports are included as Attachment 4.

CLOSURE REQUEST

Preliminary samples SS01 and SS02 and delineation samples from boreholes BH01 and BH02 were collected from within the release extent from depths ranging from 0.5 feet to 3 feet bgs to assess for the presence or absence of soil impacts as a result of the April 15, 2021, 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 Site Closure Criteria. The Site is vertically delineated to the strictest Table 1 Closure Criteria by BH02A collected at 3 feet bgs.

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 produced water release. XTO respectfully requests NFA for Incident Number nAPP2100834529.

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

Sincerely,

WSP USA Inc.

Fatima Smith
Associate Consultant, Geologist

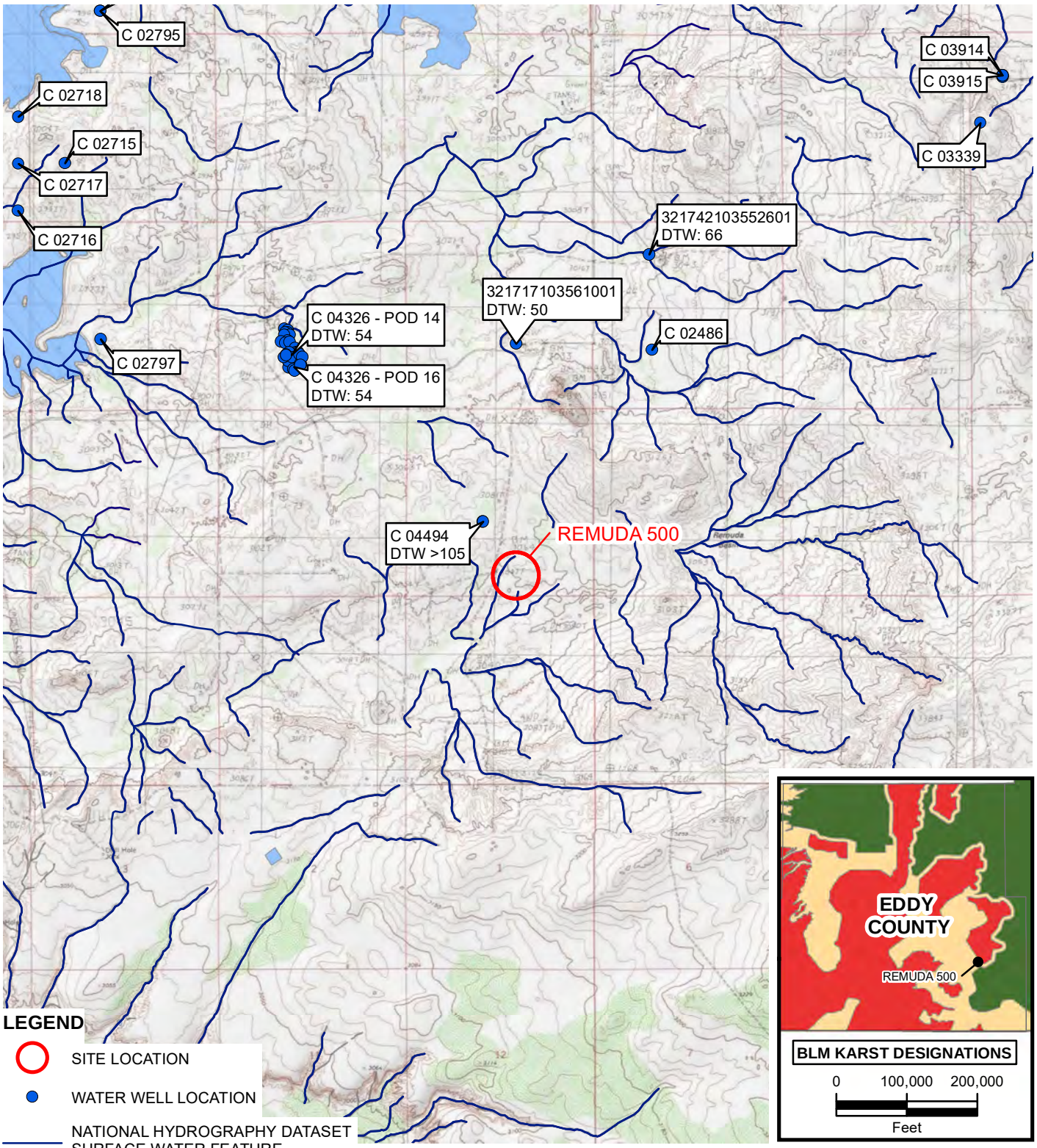
Ashley L. Ager, P.G.
Managing Director, Geologist

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

Attachments:

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

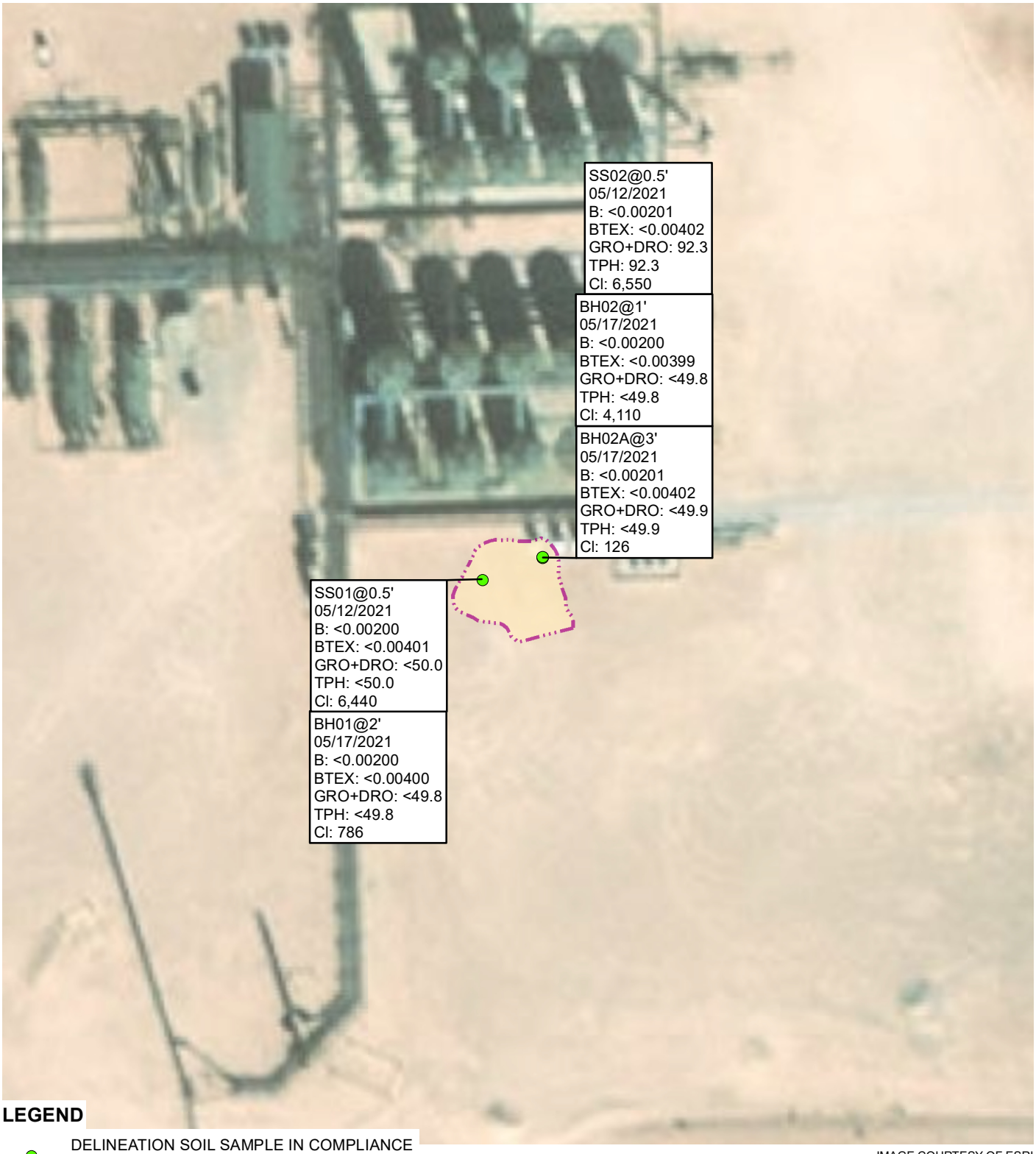
FIGURES



DTW: DEPTH TO WATER IN FEET
BLM: BUREAU OF LAND MANAGEMENT
TD: TOTAL DEPTH IN FEET
NOTE: INCIDENT NUMBER NAPP2111852118

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\31403236.002.0129_REMUDA 500\31403236.002_FIG01_SL_RECEPTOR_2021.mxd



LEGEND

DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA

RELEASE EXTENT

B: BENZENE
BTEX: TOTAL BENZENE, TOLUENE, ETHYLBENZENE, AND TOTAL XYLENES
GRO: GASOLINE RANGE ORGANICS
DRO: DIESEL RANGE ORGANICS
TPH: TOTAL PETROLEUM HYDROCARBONS
Cl: CHLORIDE
NMAC: NEW MEXICO ADMINISTRATIVE CODE
NMOCD: NEW MEXICO OIL CONSERVATION DIVISION
NOTE: INCIDENT NUMBER NAPP2111852118

IMAGE COURTESY OF ESRI

0 50 100
Feet

N

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

P:\XTO Energy\GIS\MXD\31403236.002.0129_REMUDA 500\31403236.002_FIG02_DELINEATION_2021.mxd

TABLES

Table 1

Soil Analytical Results
Remuda 500
XTO Energy, Inc.
Incident Number NAPP2111852118
Eddy County, New Mexico

Sample ID	Sample Date	Sample Depth (ft bgs)	Benzene (mg/kg)	BTEX (mg/kg)	TPH-DRO (mg/kg)	TPH-GRO (mg/kg)	TPH-ORO (mg/kg)	Total GRO+DRO (mg/kg)	TPH (mg/kg)	Chloride (mg/kg)
NMOCD Table 1 Closure Criteria (NMAC 19.15.29)			10	50	NE	NE	NE	1,000	2,500	20,000
Surface Samples										
SS01	05/12/2021	0.5	<0.00200	<0.00401	<50.0	<50.0	<50.0	<50.0	<50.0	6,440
SS02	05/12/2021	0.5	<0.00201	<0.00402	92.3	<49.9	<49.9	92.3	92.3	6,550
Delineation Samples										
BH01	05/17/2021	2	<0.00200	<0.00400	<49.8	<49.8	<49.8	<49.8	<49.8	786
BH02	05/17/2021	1	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	4,110
BH02A	05/17/2021	3	<0.00201	<0.00402	<49.9	<49.9	<49.9	<49.9	<49.9	126

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

Click to hideNews Bulletins

- Explore the *New* USGS National Water Dashboard interactive map to access real-time water data from over 13,500 stations nationwide.
- Full News

USGS 321717103561001 23S.29E.24.41321

Available data for this site SUMMARY OF ALL AVAILABLE DATA GO

Well Site

DESCRIPTION:

Latitude 32°17'17", Longitude 103°56'10" NAD27
Eddy County, New Mexico , Hydrologic Unit 13060011
Well depth: not determined.
Land surface altitude: 3,034 feet above NAVD88.
Well completed in "Other aquifers" (N9999OTHER) national aquifer.
Well completed in "Rustler Formation" (312RSLR) local aquifer

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field groundwater-level measurements	1983-02-02	2003-01-29	4
Revisions	Unavailable (site:0) (timeseries:0)		

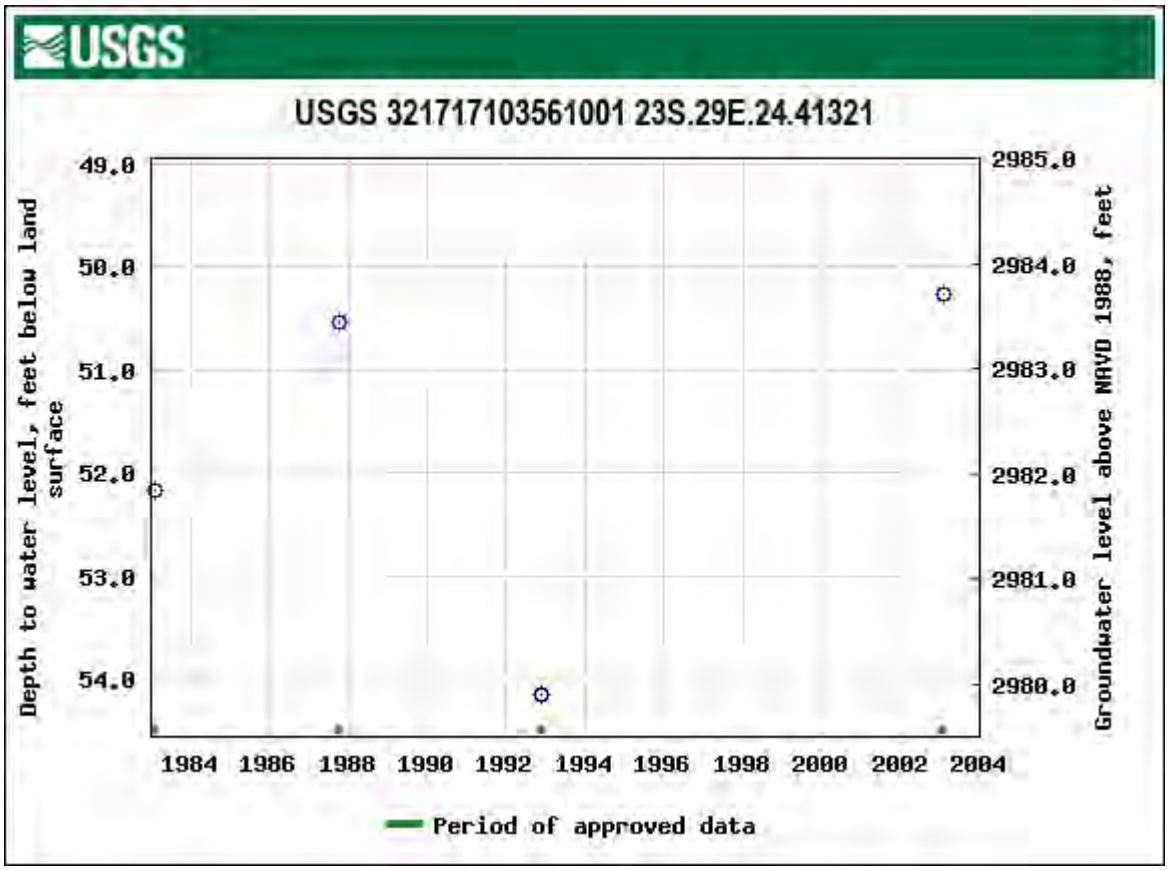
OPERATION:

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

---

Title: NWIS Site Information for USA: Site Inventory
URL: https://waterdata.usgs.gov/nwis/inventory?agency_code=USGS&site_no=321717103561001

Page Contact Information: New Mexico Water Data Support Team
Page Last Modified: 2021-06-10 16:13:56 EDT
0.28 0.26 caww01


USGS
USGS 321717103561001 23S.29E.24.41321
Depth to water level, feet below land surface
49.0
50.0
51.0
52.0
53.0
54.0
2985.0
2984.0
2983.0
2982.0
2981.0
2980.0
Groundwater level above NAVD 1988, feet
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
Period of approved data

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	
						2		0-1' : SAND, dry, brown, poorly graded, fine grain, Clay (10% clay), some roots, no stain, no odor
						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	
Logged By BB, LAD, FS	Method: Hollow Stem Auger, sonic
Lat/Long:	Field Screening:
Hole Diameter: 6.25", 4.25"	Total Depth: 105'

LITHOLOGIC / SOIL SAMPLING LOG

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	GYP	
D			N			70		
						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
D			N			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)
						102		
						103		
						104		
						105		
						106		TD @ 105' bgs (1/5/2021)
						107		
						108		
						109		
						110		
						111		
						112		
						113		
						114		
						115		
						116		
						117		
						118		
						119		
						120		
						121		
						122		
						123		
						124		
						125		

ATTACHMENT 2: LITHOLOGIC/SOIL SAMPLING LOG

WSP USA

508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: BH01	Date: 5/17/2021
Site Name: Remuda 500	
RP or Incident Number: NAPP2111852118	
WSP Job Number: 31403236.002.0129	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: WM	Method: Hand Auger		
Lat/Long: 32.270234, -103.936731	Field Screening: HACH chloride strips, PID	Hole Diameter: 3 inches	Total Depth: 2 feet bgs

Comments: D-dry; N-no

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	CCHE	0-2' CALICHE, dry, tan, poorly consolidated, some sand, some silt no stain, no odor
D	336	0.0	N			1		
D	761	0.1	N	BH01	2	2		

TD @ 2 feet bgs

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: BH02	Date: 5/17/2021
Site Name: Remuda 500	
RP or Incident Number: NAPP2111852118	
WSP Job Number: 31403236.002.0129	

LITHOLOGIC / SOIL SAMPLING LOG

Logged By: WM	Method: Hand Auger		
Lat/Long: 32.270254, -103.936642	Field Screening: HACH chloride strips, PID	Hole Diameter: 3 inches	Total Depth: 3 feet bgs

Comments: D-dry; N-no

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
						0	CCHE	0-3' CALICHE, dry, tan, poorly consolidated, some sand, some silt no stain, no odor
D	3,220	0.0	N	BH02	1	1		
D	184	0.1	N			2		
D	<184	0.0	N	BH02A	3	3		

TD @ 3 feet bgs

ATTACHMENT 3: PHOTOGRAPHIC LOG

PHOTOGRAPHIC LOG		
XTO Energy, Inc.	Remuda 500 Eddy County, New Mexico	NAPP2111852118

Photo No.	Date
1	May 12, 2021

View of release location facing northwest

Photo No.	Date
2	May 12, 2021

View of release location facing north-northwest

PHOTOGRAPHIC LOG		
XTO Energy, Inc.	Remuda 500 Eddy County, New Mexico	NAPP2111852118

Photo No.	Date
3	May 17, 2021

View of borehole (BH01) during delineation activities facing northwest

Photo No.	Date
4	May 17, 2021

View of borehole (BH02) during delineation activities facing northwest

ATTACHMENT 4: LABORATORY ANALYTICAL RESULTS

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 890-661-1
Laboratory Sample Delivery Group: 31403236.002.0129
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:
5/18/2021 2:59:31 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: 890-661-1
SDG: 31403236.002.0129

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-661-1
Project/Site: Remuda 500 SDG: 31403236.002.0129

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

HPLC/IC

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
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: 890-661-1
SDG: 31403236.002.0129

Job ID: 890-661-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-661-1

Comments
No additional comments.

Receipt
The samples were received on 5/12/2021 4:55 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.4º C.

GC VOA
Method 8021B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-3053 and analytical batch 880-3051 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

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

General Chemistry
Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for 880-3152 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.The associated sample is: SS02 (890-661-2).

No additional analytical or quality issues were noted, other than those described above or 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: 890-661-1
SDG: 31403236.002.0129

Client Sample ID: SS01

Lab Sample ID: 890-661-1

Date Collected: 05/12/21 10:45
Matrix: Solid
Date Received: 05/12/21 16:55
Sample Depth: - 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		05/13/21 14:00	05/13/21 17:03	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/13/21 14:00	05/13/21 17:03	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/13/21 14:00	05/13/21 17:03	1
m-Xylene & p-Xylene	<0.00401	U	0.00401		mg/Kg		05/13/21 14:00	05/13/21 17:03	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/13/21 14:00	05/13/21 17:03	1
Xylenes, Total	<0.00401	U	0.00401		mg/Kg		05/13/21 14:00	05/13/21 17:03	1
Total BTEX	<0.00401	U	0.00401		mg/Kg		05/13/21 14:00	05/13/21 17:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*	*05/13/21 14:00*	*05/13/21 17:03*	*1*
1,4-Difluorobenzene (Surr)	*97*		*70 - 130*	*05/13/21 14:00*	*05/13/21 17:03*	*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		05/13/21 11:33	05/13/21 19:01	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/13/21 11:33	05/13/21 19:01	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/13/21 11:33	05/13/21 19:01	1
Total TPH	<50.0	U	50.0		mg/Kg		05/13/21 11:33	05/13/21 19:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*05/13/21 11:33*	*05/13/21 19:01*	*1*
o-Terphenyl	*120*		*70 - 130*	*05/13/21 11:33*	*05/13/21 19:01*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6440**	**F1**	49.6		mg/Kg			05/17/21 10:26	10

Client Sample ID: SS02

Lab Sample ID: 890-661-2

Date Collected: 05/12/21 10:50
Matrix: Solid
Date Received: 05/12/21 16:55
Sample Depth: - 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		05/13/21 14:00	05/13/21 17:27	1
Toluene	<0.00201	U	0.00201		mg/Kg		05/13/21 14:00	05/13/21 17:27	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		05/13/21 14:00	05/13/21 17:27	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		05/13/21 14:00	05/13/21 17:27	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		05/13/21 14:00	05/13/21 17:27	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		05/13/21 14:00	05/13/21 17:27	1
Total BTEX	<0.00402	U	0.00402		mg/Kg		05/13/21 14:00	05/13/21 17:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*05/13/21 14:00*	*05/13/21 17:27*	*1*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*	*05/13/21 14:00*	*05/13/21 17:27*	*1*

Client Sample Results

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

Job ID: 890-661-1
SDG: 31403236.002.0129

Client Sample ID: SS02

Date Collected: 05/12/21 10:50
Date Received: 05/12/21 16:55
Sample Depth: - 0.5

Lab Sample ID: 890-661-2

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		05/13/21 11:33	05/13/21 19:22	1
Diesel Range Organics (Over C10-C28)	**92.3**		49.9		mg/Kg		05/13/21 11:33	05/13/21 19:22	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/13/21 11:33	05/13/21 19:22	1
Total TPH	**92.3**		49.9		mg/Kg		05/13/21 11:33	05/13/21 19:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*05/13/21 11:33*	*05/13/21 19:22*	*1*
o-Terphenyl	*118*		*70 - 130*	*05/13/21 11:33*	*05/13/21 19:22*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6550**		49.8		mg/Kg			05/17/21 10:41	10

Surrogate Summary

Client: WSP USA Inc. Job ID: 890-661-1
Project/Site: Remuda 500 SDG: 31403236.002.0129

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-661-1	SS01	100	97
890-661-2	SS02	105	99

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)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-661-1	SS01	102	120
890-661-2	SS02	103	118
LCS 880-3065/2-A	Lab Control Sample	50 S1-	57 S1-
LCSD 880-3065/3-A	Lab Control Sample Dup	99	108
MB 880-3065/1-A	Method Blank	109	132 S1+

Surrogate Legend

1CO = 1-Chlorooctane

OTPH = o-Terphenyl

QC Sample Results

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

Job ID: 890-661-1
SDG: 31403236.002.0129

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

Lab Sample ID: MB 880-3065/1-A
Matrix: Solid
Analysis Batch: 3067

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 3065

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		05/13/21 11:33	05/13/21 11:47	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/13/21 11:33	05/13/21 11:47	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/13/21 11:33	05/13/21 11:47	1
Total TPH	<50.0	U	50.0		mg/Kg		05/13/21 11:33	05/13/21 11:47	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*109*		*70 - 130*	*05/13/21 11:33*	*05/13/21 11:47*	*1*
o-Terphenyl	*132*	*S1+*	*70 - 130*	*05/13/21 11:33*	*05/13/21 11:47*	*1*

Lab Sample ID: LCS 880-3065/2-A
Matrix: Solid
Analysis Batch: 3067

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 3065

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	846.2		mg/Kg		85	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1085		mg/Kg		109	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*50*	*S1-*	*70 - 130*
o-Terphenyl	*57*	*S1-*	*70 - 130*

Lab Sample ID: LCSD 880-3065/3-A
Matrix: Solid
Analysis Batch: 3067

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 3065

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	841.4		mg/Kg		84	70 - 130	1	20
Diesel Range Organics (Over C10-C28)			1000	1039		mg/Kg		104	70 - 130	4	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*99*		*70 - 130*
o-Terphenyl	*108*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-3096/1-A
Matrix: Solid
Analysis Batch: 3152

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			05/17/21 10:11	1

QC Sample Results

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

Job ID: 890-661-1
SDG: 31403236.002.0129

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-3096/2-A
Matrix: Solid
Analysis Batch: 3152

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	242.6		mg/Kg		97	90 - 110		

Lab Sample ID: LCSD 880-3096/3-A
Matrix: Solid
Analysis Batch: 3152

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	243.1		mg/Kg		97	90 - 110	0	20

Lab Sample ID: 890-661-1 MS
Matrix: Solid
Analysis Batch: 3152

Client Sample ID: SS01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	6440	F1	99200	9255	F1	mg/Kg		3	90 - 110		

Lab Sample ID: 890-661-1 MSD
Matrix: Solid
Analysis Batch: 3152

Client Sample ID: SS01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	6440	F1	99200	9275	F1	mg/Kg		3	90 - 110	0	20

QC Association Summary

Client: WSP USA Inc. Job ID: 890-661-1
Project/Site: Remuda 500 SDG: 31403236.002.0129

GC VOA

Analysis Batch: 3051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-661-1	SS01	Total/NA	Solid	8021B	3053
890-661-2	SS02	Total/NA	Solid	8021B	3053

Prep Batch: 3053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-661-1	SS01	Total/NA	Solid	5035	
890-661-2	SS02	Total/NA	Solid	5035	

GC Semi VOA

Prep Batch: 3065

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-661-1	SS01	Total/NA	Solid	8015NM Prep	
890-661-2	SS02	Total/NA	Solid	8015NM Prep	
MB 880-3065/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-3065/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-3065/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

Analysis Batch: 3067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-661-1	SS01	Total/NA	Solid	8015B NM	3065
890-661-2	SS02	Total/NA	Solid	8015B NM	3065
MB 880-3065/1-A	Method Blank	Total/NA	Solid	8015B NM	3065
LCS 880-3065/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	3065
LCSD 880-3065/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	3065

HPLC/IC

Leach Batch: 3096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-661-1	SS01	Soluble	Solid	DI Leach	
890-661-2	SS02	Soluble	Solid	DI Leach	
MB 880-3096/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-3096/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-3096/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-661-1 MS	SS01	Soluble	Solid	DI Leach	
890-661-1 MSD	SS01	Soluble	Solid	DI Leach	

Analysis Batch: 3152

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-661-1	SS01	Soluble	Solid	300.0	3096
890-661-2	SS02	Soluble	Solid	300.0	3096
MB 880-3096/1-A	Method Blank	Soluble	Solid	300.0	3096
LCS 880-3096/2-A	Lab Control Sample	Soluble	Solid	300.0	3096
LCSD 880-3096/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	3096
890-661-1 MS	SS01	Soluble	Solid	300.0	3096
890-661-1 MSD	SS01	Soluble	Solid	300.0	3096

Lab Chronicle

Client: WSP USA Inc. Job ID: 890-661-1
Project/Site: Remuda 500 SDG: 31403236.002.0129

Client Sample ID: SS01 Lab Sample ID: 890-661-1

Date Collected: 05/12/21 10:45 **Matrix: Solid**
Date Received: 05/12/21 16:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3053	05/13/21 14:00	MR	XM
Total/NA	Analysis	8021B		1	3051	05/13/21 17:03	MR	XM
Total/NA	Prep	8015NM Prep			3065	05/13/21 11:33	DM	XM
Total/NA	Analysis	8015B NM		1	3067	05/13/21 19:01	AJ	XM
Soluble	Leach	DI Leach			3096	05/14/21 09:31	CH	XM
Soluble	Analysis	300.0		10	3152	05/17/21 10:26	SC	XM

Client Sample ID: SS02 Lab Sample ID: 890-661-2

Date Collected: 05/12/21 10:50 **Matrix: Solid**
Date Received: 05/12/21 16:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3053	05/13/21 14:00	MR	XM
Total/NA	Analysis	8021B		1	3051	05/13/21 17:27	MR	XM
Total/NA	Prep	8015NM Prep			3065	05/13/21 11:33	DM	XM
Total/NA	Analysis	8015B NM		1	3067	05/13/21 19:22	AJ	XM
Soluble	Leach	DI Leach			3096	05/14/21 09:31	CH	XM
Soluble	Analysis	300.0		10	3152	05/17/21 10:41	SC	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: 890-661-1
SDG: 31403236.002.0129

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. Job ID: 890-661-1
Project/Site: Remuda 500 SDG: 31403236.002.0129

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: 890-661-1
SDG: 31403236.002.0129

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-661-1	SS01	Solid	05/12/21 10:45	05/12/21 16:55	- 0.5
890-661-2	SS02	Solid	05/12/21 10:50	05/12/21 16:55	- 0.5

Chain of Custody

XENCO LABORATORIES

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

Work Order No: _____

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5/18/2021

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	WSP Permian office	Company Name:	XTO Energy
Address:	3300 North A Street	Address:	3104 e Green Street
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	Carlsbad, NM, 88220
Phone:	(432) 236-3849	Email:	Elliot.Lee@wsp.com, Tacoma.Morrissey@wsp.com

Work Order Comments

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

Project Name:	Remuda 500	Turn Around	
Project Number:	31403236.002.0129	Routine	☑
P.O. Number:		Rush:	
Sampler's Name:	Elliot Lee	Due Date:	

SAMPLE RECEIPT				
Temp Blank:	Yes No	Wet Ice:	Yes No	
Temperature (°C):	3.6/3.4	Thermometer ID		
Received Intact:	Yes No			
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Total Containers:		

ANALYSIS REQUEST

890-661 Chain of Custody

Work Order Notes

Cost Center 1067601001
Incident # NAPP2111852118

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 0=8021)	Chloride (EPA 300.0)	Sample Comments
SS01	S	5/12/2021	10:45	0.5	1	X	X	X	Discrete
SS02	S	5/12/2021	10:50	0.5	1	X	X	X	Discrete

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			5.12.21 1655			
3				4		
5				6		

Rev. 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

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Kramer Jessica	Carrier Tracking No(s):	COC No: 890-216 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: jessica.kramer@eurofinset.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Xenco		Accreditations Required (See note): NELAP - Louisiana, NELAP - Texas		Job #: 890-661-1
Address: 1211 W Florida Ave	Due Date Requested: 5/19/2021			
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)	8016MOD_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:											
SS01 (890-661-1)	5/12/21	10 45 Mountain		Solid			X	X	X	1	
SS02 (890-661-2)	5/12/21	10 50 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	Date/Time	Company	Received by	Date/Time	Company
1	Cruz Cortez 5.13.21				5-13-21 2:00pm	
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

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

Ver 11/01/2020

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-661-1
SDG Number: 31403236.002.0129

Login Number: 661
List Number: 1
Creator: Clifton, Cloe

List Source: Eurofins Carlsbad

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-661-1
SDG Number: 31403236.002.0129

Login Number: 661
List Number: 2
Creator: Copeland, Tatiana

List Source: Eurofins Midland
List Creation: 05/13/21 02:08 PM

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.	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	

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ANALYTICAL REPORT

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

Laboratory Job ID: 890-679-1
Laboratory Sample Delivery Group: 31403236.002.0129
Client Project/Site: Remuda 500 (4-15-21)

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

Attn: Dan Moir

JKramer

Authorized for release by:
5/21/2021 3:20:13 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 (4-15-21)

Laboratory Job ID: 890-679-1
SDG: 31403236.002.0129

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-679-1
Project/Site: Remuda 500 (4-15-21) SDG: 31403236.002.0129

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
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 (4-15-21)

Job ID: 890-679-1
SDG: 31403236.002.0129

Job ID: 890-679-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-679-1

Comments
No additional comments.

Receipt
The samples were received on 5/17/2021 12:57 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 3.0º C.

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

GC Semi VOA
Method 8015B NM: Manual integration was performed on the following sample: BH02A (890-679-3). The oil range detections in these samples was the result of baseline rise and was not an actual indication of oil range hydrocarbons.

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. Job ID: 890-679-1
Project/Site: Remuda 500 (4-15-21) SDG: 31403236.002.0129

Client Sample ID: BH01 — Lab Sample ID: 890-679-1

Date Collected: 05/17/21 10:38 **Matrix: Solid**
Date Received: 05/17/21 12:57
Sample Depth: - 2

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		05/18/21 10:27	05/18/21 20:58	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/18/21 10:27	05/18/21 20:58	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/18/21 10:27	05/18/21 20:58	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		05/18/21 10:27	05/18/21 20:58	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/18/21 10:27	05/18/21 20:58	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		05/18/21 10:27	05/18/21 20:58	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		05/18/21 10:27	05/18/21 20:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*	*05/18/21 10:27*	*05/18/21 20:58*	*1*
1,4-Difluorobenzene (Surr)	*117*		*70 - 130*	*05/18/21 10:27*	*05/18/21 20:58*	*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		05/18/21 11:59	05/18/21 15:08	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		05/18/21 11:59	05/18/21 15:08	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		05/18/21 11:59	05/18/21 15:08	1
Total TPH	<49.8	U	49.8		mg/Kg		05/18/21 11:59	05/18/21 15:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*103*		*70 - 130*	*05/18/21 11:59*	*05/18/21 15:08*	*1*
o-Terphenyl	*110*		*70 - 130*	*05/18/21 11:59*	*05/18/21 15:08*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**786**		4.99		mg/Kg			05/20/21 14:47	1

Client Sample ID: BH02 — Lab Sample ID: 890-679-2

Date Collected: 05/17/21 10:56 **Matrix: Solid**
Date Received: 05/17/21 12:57
Sample Depth: - 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		05/18/21 10:27	05/18/21 21:19	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/18/21 10:27	05/18/21 21:19	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/18/21 10:27	05/18/21 21:19	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		05/18/21 10:27	05/18/21 21:19	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/18/21 10:27	05/18/21 21:19	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		05/18/21 10:27	05/18/21 21:19	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		05/18/21 10:27	05/18/21 21:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*05/18/21 10:27*	*05/18/21 21:19*	*1*
1,4-Difluorobenzene (Surr)	*119*		*70 - 130*	*05/18/21 10:27*	*05/18/21 21:19*	*1*

Client Sample Results

Client: WSP USA Inc. Job ID: 890-679-1
Project/Site: Remuda 500 (4-15-21) SDG: 31403236.002.0129

Client Sample ID: BH02 Lab Sample ID: 890-679-2

Date Collected: 05/17/21 10:56 **Matrix: Solid**
Date Received: 05/17/21 12:57
Sample Depth: - 1

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		05/18/21 11:59	05/18/21 15:30	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		05/18/21 11:59	05/18/21 15:30	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		05/18/21 11:59	05/18/21 15:30	1
Total TPH	<49.8	U	49.8		mg/Kg		05/18/21 11:59	05/18/21 15:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*98*		*70 - 130*	*05/18/21 11:59*	*05/18/21 15:30*	*1*
o-Terphenyl	*109*		*70 - 130*	*05/18/21 11:59*	*05/18/21 15:30*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4110**		24.8		mg/Kg			05/20/21 14:52	5

Client Sample ID: BH02A Lab Sample ID: 890-679-3

Date Collected: 05/17/21 11:04 **Matrix: Solid**
Date Received: 05/17/21 12:57
Sample Depth: - 3

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		05/18/21 10:27	05/18/21 21:39	1
Toluene	<0.00201	U	0.00201		mg/Kg		05/18/21 10:27	05/18/21 21:39	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		05/18/21 10:27	05/18/21 21:39	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		05/18/21 10:27	05/18/21 21:39	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		05/18/21 10:27	05/18/21 21:39	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		05/18/21 10:27	05/18/21 21:39	1
Total BTEX	<0.00402	U	0.00402		mg/Kg		05/18/21 10:27	05/18/21 21:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*	*05/18/21 10:27*	*05/18/21 21:39*	*1*
1,4-Difluorobenzene (Surr)	*118*		*70 - 130*	*05/18/21 10:27*	*05/18/21 21:39*	*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		05/18/21 11:59	05/18/21 15:52	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		05/18/21 11:59	05/18/21 15:52	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		05/18/21 11:59	05/18/21 15:52	1
Total TPH	<49.9	U	49.9		mg/Kg		05/18/21 11:59	05/18/21 15:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*101*		*70 - 130*	*05/18/21 11:59*	*05/18/21 15:52*	*1*
o-Terphenyl	*107*		*70 - 130*	*05/18/21 11:59*	*05/18/21 15:52*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**126**		4.95		mg/Kg			05/20/21 14:57	1

Surrogate Summary

Client: WSP USA Inc. Job ID: 890-679-1
Project/Site: Remuda 500 (4-15-21) SDG: 31403236.002.0129

Method: 8021B - Volatile Organic Compounds (GC)

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)	
		BFB1	DFBZ1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-679-1	BH01	103	117
890-679-2	BH02	105	119
890-679-3	BH02A	97	118
LCS 880-3202/1-A	Lab Control Sample	89	105
LCSD 880-3202/2-A	Lab Control Sample Dup	95	112
MB 880-3202/5-A	Method Blank	81	74

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)	
		1CO1	OTPH1
Lab Sample ID	Client Sample ID	(70-130)	(70-130)
890-679-1	BH01	103	110
890-679-2	BH02	98	109
890-679-3	BH02A	101	107
LCS 880-3210/2-A	Lab Control Sample	102	98
LCSD 880-3210/3-A	Lab Control Sample Dup	105	97
MB 880-3210/1-A	Method Blank	112	105

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: WSP USA Inc.
Project/Site: Remuda 500 (4-15-21)

Job ID: 890-679-1
SDG: 31403236.002.0129

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-3202/5-A
Matrix: Solid
Analysis Batch: 3203

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 3202

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		05/18/21 10:27	05/18/21 14:01	1
Toluene	<0.00200	U	0.00200		mg/Kg		05/18/21 10:27	05/18/21 14:01	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		05/18/21 10:27	05/18/21 14:01	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		05/18/21 10:27	05/18/21 14:01	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		05/18/21 10:27	05/18/21 14:01	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		05/18/21 10:27	05/18/21 14:01	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		05/18/21 10:27	05/18/21 14:01	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*81*		*70 - 130*	*05/18/21 10:27*	*05/18/21 14:01*	*1*
1,4-Difluorobenzene (Surr)	*74*		*70 - 130*	*05/18/21 10:27*	*05/18/21 14:01*	*1*

Lab Sample ID: LCS 880-3202/1-A
Matrix: Solid
Analysis Batch: 3203

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 3202

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.07277		mg/Kg		73	70 - 130		
Toluene			0.100	0.08570		mg/Kg		86	70 - 130		
Ethylbenzene			0.100	0.08586		mg/Kg		86	70 - 130		
m-Xylene & p-Xylene			0.200	0.1714		mg/Kg		86	70 - 130		
o-Xylene			0.100	0.08545		mg/Kg		85	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*89*		*70 - 130*
1,4-Difluorobenzene (Surr)	*105*		*70 - 130*

Lab Sample ID: LCSD 880-3202/2-A
Matrix: Solid
Analysis Batch: 3203

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 3202

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.07593		mg/Kg		76	70 - 130	4	35
Toluene			0.100	0.08310		mg/Kg		83	70 - 130	3	35
Ethylbenzene			0.100	0.08699		mg/Kg		87	70 - 130	1	35
m-Xylene & p-Xylene			0.200	0.1704		mg/Kg		85	70 - 130	1	35
o-Xylene			0.100	0.08637		mg/Kg		86	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*
1,4-Difluorobenzene (Surr)	*112*		*70 - 130*

QC Sample Results

Client: WSP USA Inc.
Project/Site: Remuda 500 (4-15-21)

Job ID: 890-679-1
SDG: 31403236.002.0129

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

Lab Sample ID: MB 880-3210/1-A
Matrix: Solid
Analysis Batch: 3205

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 3210

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		05/18/21 11:59	05/18/21 12:58	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		05/18/21 11:59	05/18/21 12:58	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		05/18/21 11:59	05/18/21 12:58	1
Total TPH	<50.0	U	50.0		mg/Kg		05/18/21 11:59	05/18/21 12:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*112*		*70 - 130*	*05/18/21 11:59*	*05/18/21 12:58*	*1*
o-Terphenyl	*105*		*70 - 130*	*05/18/21 11:59*	*05/18/21 12:58*	*1*

Lab Sample ID: LCS 880-3210/2-A
Matrix: Solid
Analysis Batch: 3205

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 3210

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10			1000	873.5		mg/Kg		87	70 - 130		
Diesel Range Organics (Over C10-C28)			1000	1084		mg/Kg		108	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*102*		*70 - 130*
o-Terphenyl	*98*		*70 - 130*

Lab Sample ID: LCSD 880-3210/3-A
Matrix: Solid
Analysis Batch: 3205

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 3210

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	900.4		mg/Kg		90	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	1097		mg/Kg		110	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*105*		*70 - 130*
o-Terphenyl	*97*		*70 - 130*

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-3234/1-A
Matrix: Solid
Analysis Batch: 3256

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			05/20/21 12:32	1

QC Sample Results

Client: WSP USA Inc. Job ID: 890-679-1
Project/Site: Remuda 500 (4-15-21) SDG: 31403236.002.0129

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 880-3234/2-A **Client Sample ID: Lab Control Sample**
Matrix: Solid **Prep Type: Soluble**
Analysis Batch: 3256

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	252.9		mg/Kg		101	90 - 110		

Lab Sample ID: LCSD 880-3234/3-A **Client Sample ID: Lab Control Sample Dup**
Matrix: Solid **Prep Type: Soluble**
Analysis Batch: 3256

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			250	249.0		mg/Kg		100	90 - 110	2	20

QC Association Summary

Client: WSP USA Inc. Job ID: 890-679-1
Project/Site: Remuda 500 (4-15-21) SDG: 31403236.002.0129

GC VOA

Prep Batch: 3202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-679-1	BH01	Total/NA	Solid	5035	
890-679-2	BH02	Total/NA	Solid	5035	
890-679-3	BH02A	Total/NA	Solid	5035	
MB 880-3202/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-3202/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-3202/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	

Analysis Batch: 3203

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-679-1	BH01	Total/NA	Solid	8021B	3202
890-679-2	BH02	Total/NA	Solid	8021B	3202
890-679-3	BH02A	Total/NA	Solid	8021B	3202
MB 880-3202/5-A	Method Blank	Total/NA	Solid	8021B	3202
LCS 880-3202/1-A	Lab Control Sample	Total/NA	Solid	8021B	3202
LCSD 880-3202/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	3202

GC Semi VOA

Analysis Batch: 3205

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-679-1	BH01	Total/NA	Solid	8015B NM	3210
890-679-2	BH02	Total/NA	Solid	8015B NM	3210
890-679-3	BH02A	Total/NA	Solid	8015B NM	3210
MB 880-3210/1-A	Method Blank	Total/NA	Solid	8015B NM	3210
LCS 880-3210/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	3210
LCSD 880-3210/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	3210

Prep Batch: 3210

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-679-1	BH01	Total/NA	Solid	8015NM Prep	
890-679-2	BH02	Total/NA	Solid	8015NM Prep	
890-679-3	BH02A	Total/NA	Solid	8015NM Prep	
MB 880-3210/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-3210/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-3210/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 3234

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-679-1	BH01	Soluble	Solid	DI Leach	
890-679-2	BH02	Soluble	Solid	DI Leach	
890-679-3	BH02A	Soluble	Solid	DI Leach	
MB 880-3234/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-3234/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-3234/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	

Analysis Batch: 3256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-679-1	BH01	Soluble	Solid	300.0	3234
890-679-2	BH02	Soluble	Solid	300.0	3234
890-679-3	BH02A	Soluble	Solid	300.0	3234

QC Association Summary

Client: WSP USA Inc. Job ID: 890-679-1
Project/Site: Remuda 500 (4-15-21) SDG: 31403236.002.0129

HPLC/IC (Continued)

Analysis Batch: 3256 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-3234/1-A	Method Blank	Soluble	Solid	300.0	3234
LCS 880-3234/2-A	Lab Control Sample	Soluble	Solid	300.0	3234
LCSD 880-3234/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	3234

Lab Chronicle

Client: WSP USA Inc. Job ID: 890-679-1
Project/Site: Remuda 500 (4-15-21) SDG: 31403236.002.0129

Client Sample ID: BH01 Lab Sample ID: 890-679-1

Date Collected: 05/17/21 10:38 **Matrix: Solid**
Date Received: 05/17/21 12:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3202	05/18/21 10:27	KL	XEN MID
Total/NA	Analysis	8021B		1	3203	05/18/21 20:58	KL	XEN MID
Total/NA	Prep	8015NM Prep			3210	05/18/21 11:59	DM	XEN MID
Total/NA	Analysis	8015B NM		1	3205	05/18/21 15:08	AJ	XEN MID
Soluble	Leach	DI Leach			3234	05/19/21 09:37	CH	XEN MID
Soluble	Analysis	300.0		1	3256	05/20/21 14:47	CH	XEN MID

Client Sample ID: BH02 Lab Sample ID: 890-679-2

Date Collected: 05/17/21 10:56 **Matrix: Solid**
Date Received: 05/17/21 12:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3202	05/18/21 10:27	KL	XEN MID
Total/NA	Analysis	8021B		1	3203	05/18/21 21:19	KL	XEN MID
Total/NA	Prep	8015NM Prep			3210	05/18/21 11:59	DM	XEN MID
Total/NA	Analysis	8015B NM		1	3205	05/18/21 15:30	AJ	XEN MID
Soluble	Leach	DI Leach			3234	05/19/21 09:37	CH	XEN MID
Soluble	Analysis	300.0		5	3256	05/20/21 14:52	CH	XEN MID

Client Sample ID: BH02A Lab Sample ID: 890-679-3

Date Collected: 05/17/21 11:04 **Matrix: Solid**
Date Received: 05/17/21 12:57

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			3202	05/18/21 10:27	KL	XEN MID
Total/NA	Analysis	8021B		1	3203	05/18/21 21:39	KL	XEN MID
Total/NA	Prep	8015NM Prep			3210	05/18/21 11:59	DM	XEN MID
Total/NA	Analysis	8015B NM		1	3205	05/18/21 15:52	AJ	XEN MID
Soluble	Leach	DI Leach			3234	05/19/21 09:37	CH	XEN MID
Soluble	Analysis	300.0		1	3256	05/20/21 14:57	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 890-679-1
Project/Site: Remuda 500 (4-15-21) SDG: 31403236.002.0129

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. Job ID: 890-679-1
Project/Site: Remuda 500 (4-15-21) SDG: 31403236.002.0129

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

Protocol References:

ASTM = ASTM International

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

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

Sample Summary

Client: WSP USA Inc.
Project/Site: Remuda 500 (4-15-21)

Job ID: 890-679-1
SDG: 31403236.002.0129

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-679-1	BH01	Solid	05/17/21 10:38	05/17/21 12:57	- 2
890-679-2	BH02	Solid	05/17/21 10:56	05/17/21 12:57	- 1
890-679-3	BH02A	Solid	05/17/21 11:04	05/17/21 12:57	- 3

Chain of Custody

XENCO LABORATORIES

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

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Work Order No: _____

5/21/2021

Project Manager:	Dan Moir	Bill to: (if different)	Kyle Littrell
Company Name:	WSP USA Inc., Permian office	Company Name:	XTO Energy, Inc.
Address:	3300 North A Street	Address:	
City, State ZIP:	Midland, Tx 79705	City, State ZIP:	
Phone:	(432) 236-3849	Email:	will.mather@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 ☐ TRRP ☐ Level IV ☐
Deliverables: EDD ☐ ADaPT ☐ Other:

Project Name:	Remuda 500 (4-15-21)	Turn Around	
Project Number:	31403236.002.0129	Routine	☑
P.O. Number:	Eddy	Rush:	
Sampler's Name:	William Mather	Due Date:	

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

ANALYSIS REQUEST

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)
BH01	s	5/17/2021	10:38	2'	1	X	X	x
BH02	s	5/17/2021	10:56	1'	1	X	X	x
BH02A	s	5/17/2021	11:04	3'	1	X	X	x

890-679 Chain of Custody

Work Order Notes

Incident ID: nAPP2111852118
Cost Center: 1067601001

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

Sample Comments

BH01: Discrete
BH02: Discrete
BH02A: Discrete

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		5.17.21 / 12:57	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: 890-219 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: jessica.kramer@eurofinset.com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Xenco		Accreditations Required (See note): NELAP - Louisiana NELAP - Texas		Job #: 890-679-1
Address: 1211 W Florida Ave	Due Date Requested: 5/21/2021			
City: Midland	TAT Requested (days):			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email:	WO #:			
Project Name: Remuda 500 (4-15-21)	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:								
BH01 (890-679-1)	5/17/21	10 38 Mountain		Solid			X	X	X	1	
BH02 (890-679-2)	5/17/21	10 56 Mountain		Solid			X	X	X	1	
BH02A (890-679-3)	5/17/21	11 04 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:	Date/Time:	Company	Received by:	Date/Time:	Company
1	Dave Craft 5.17.21				5-18-21 1000 hrs	
2	Relinquished by	Date/Time:	Company	Received by:	Date/Time:	Company
3	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

Bottle Order Information

Bottle Order
Bottle Order #
Request From Client 5/17/2021
Date Order Posted
Order Status Ready To Process
Prepared By
Deliver By Date: ***5/17/2021 11:59:00PM***
Lab Project Number

Order Completion Information

Creator Cloe Clifton
Filled by
Sent Date
Sent Via
Tracking #

Sets	Bottles/Set	Qty	Bottle Type Description	Preservative	Method	Matrix	Sample Type	Comments	Lot #

Notes to Field Staff:

Scan QR code for field sampler instructions

Health and Safety Notes:

Preservative Comment

Relinquished By	Company	Date	Time	Received By	Company	Seal #:
Cloe Clifton	5.17.21					Seal #:
						Seal #:
Relinquished By	Company	Date	Time	Received By	Company	Seal #:
						Seal #:
						Seal #:

Please notify your PM immediately if an error is found in shipment. When returning samples, please return all provided QC samples.

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: 890-219 1
Client Contact: Shipping/Receiving	Phone	E-Mail: jessica kramer@eurofinset com	State of Origin: New Mexico	Page: Page 1 of 1
Company: Eurofins Xenco		Accreditations Required (See note): NELAP - Louisiana NELAP - Texas		Job #: 890-679-1
Address: 1211 W Florida Ave	Due Date Requested: 5/21/2021			
City: Midland	TAT Requested (days)			
State, Zip: TX, 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: Remuda 500 (4-15-21)	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/8016NM_S_Prep Full TPH	300_ORGFM_28D/DI_LEACH Chloride	8021B/5035FP_Calc BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
BH01 (890-679-1)	5/17/21	10 38 Mountain		Solid			X	X	X	1	
BH02 (890-679-2)	5/17/21	10 56 Mountain		Solid			X	X	X	1	
BH02A (890-679-3)	5/17/21	11 04 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: Cue Cuff 5.17.21	Date/Time:	Company	Received by:	Date/Time: 5-18-21 1000 Am	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

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-679-1
SDG Number: 31403236.002.0129

Login Number: 679
List Number: 1
Creator: Ordonez, Gabby

List Source: Eurofins Xenco, 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: 890-679-1
SDG Number: 31403236.002.0129

Login Number: 679
List Number: 2
Creator: Copeland, Tatiana

List Source: Eurofins Xenco, Midland
List Creation: 05/18/21 11:11 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	
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.	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 23252

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 23252
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
jnobui	Closure Report Approved. Please implement 19.15.29.13 NMAC when completing P&A.	6/8/2022