Form C-141
Page 6

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2121164390
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: Environmental Coordinator

Signature: Adrian Baker Date: 10/08/2021

email: Adrian.Baker@exxonmobil.com Telephone: 432-263-3808

OCD Only

Received by: Robert Hamlet Date: 3/1/2022

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

Closure Approved by: Robert Hamlet Date: 3/1/2022

Printed Name: Robert Hamlet Title: Environmental Specialist - Advanced

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	NAPP2121164390
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Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party XTO Energy	OGRID 5380
Contact Name Shelby Pennington	Contact Telephone 281-723-9353
Contact email shelby.pennington@exxonmobil.com	Incident # *(assigned by OCD)*
Contact mailing address 6401 Holiday Hill Rd Bldg 5, Midland, Texas, 79707	

Location of Release Source

Latitude 32.35095 Longitude -103.83369
(NAD 83 in decimal degrees to 5 decimal places)

Site Name James Ranch Unit 36 Rambler	Site Type SWD
Date Release Discovered 07/18/2021	API# *(if applicable)*

Unit Letter	Section	Township	Range	County
G	36	22S	30E	Eddy

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

Nature and Volume of Release

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

☐ Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
☒ Produced Water	Volume Released (bbls) 3790	Volume Recovered (bbls) 3790
	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 lightning strike caused produced water to release from pump tanks into lined containment. All fluid was recovered. A 48-hour advance liner inspection notice was sent to NMOCD District 2. Liner was inspected and determined not to be operating as designed. A third-party contractor has been retained for remediation activities.

State of New Mexico
Oil Conservation Division

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Was this a major release as defined by 19.15.29.7(A) NMAC? ☒ Yes ☐ No	If YES, for what reason(s) does the responsible party consider this a major release? A release equal to or greater than 25 barrels.

If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?
Yes, by Adrian Baker to Bratcher, Mike, EMNRD'; 'Venegas, Victoria, EMNRD'; 'robert.Hamlet@state.nm.us'; 'emily.hernandez@state.nm.us' on Monday, July 19, 2021 8:57 AM.

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: 7/30/21
email: adrian.baker@exxonmobil.com
Telephone: 432-236-3808

OCD Only

Received by: Ramona Marcus
Date: 8/2/2021

NAPP2121164390

Location:	**JRU 36 Rambler SWD**	
Spill Date:	**7/18/2021**	
Area 1		
Approximate Area =	21279.27	cu.ft.
VOLUME OF LEAK		
Total Crude Oil =	0.00	bbls
Total Produced Water =	3790.00	bbls
TOTAL VOLUME RECOVERED		
Total Crude Oil =	**0.00**	**bbls**
Total Produced Water =	**3790.00**	**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 39048

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 39048
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rmarcus	None	8/2/2021

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2121164390
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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.

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Page 4

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2121164390
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Printed Name: Adrian Baker Title: Environmental Coordinator

Signature: Adrian Baker Date: 10/08/2021

email: Adrain.Baker@exxonmobil.com Telephone: (432)-263-3808

OCD Only

Received by: Date:

State of New Mexico
Oil Conservation Division

Incident ID	NAPP2121164390
District RP	
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Closure

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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: Environmental Coordinator

Signature: Adrian Baker Date: 10/08/2021

email: Adrian.Baker@exxonmobil.com Telephone: 432-263-3808

OCD Only

Received by: _____ Date: _____

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

Closure Approved by: _____ Date: _____

Printed Name: _____ Title: _____

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

October 8, 2021

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

Re: Closure Request
James Ranch Unit 36 Rambler
Incident Number NAPP2121164390
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 James Ranch Unit (JRU) 36 Rambler (Site) located in Unit G, Section 36, Township 22 South, Range 30 East, in Eddy County, New Mexico (Figure 1). The purpose of the site assessment and soil sampling activities was to assess for the presence or absence of impacts to soil following the release of produced water within lined containment at the Site. Based on field observations, field screening activities, and soil sample laboratory analytical results, XTO is submitting this Closure Request and requesting no further action (NFA) for Incident Number NAPP2121164390.

RELEASE BACKGROUND

On July 18, 2021, a lightning strike caused produced water to release from pump tanks. Approximately 3,790 barrels (bbls) of produced water were released into the lined tank battery containment. A vacuum truck was immediately dispatched to the Site to recover freestanding fluids; all 3,790 bbls of the released produced water were recovered from within the lined containment. A 48-hour advance notice of liner inspection was provided via email to the New Mexico Oil Conservation Division (NMOCD) District II office on July 19, 2021. A liner integrity inspection was conducted by XTO personnel following the fluid recovery and upon inspection, the liner was determined to be insufficient. XTO reported the release to the NMOCD on a Release Notification Form C-141 on July 30, 2021. The release was assigned Incident Number NAPP2121164390.

SITE CHARACTERIZATION

WSP characterized the Site according to Table 1, *Closure Criteria for Soils Impacted by a Release*, of Title 19, Chapter 15, Part 29, Section 12 (19.15.29.12) of the New Mexico Administrative Code (NMAC). Depth to groundwater at the Site is greater than 100 feet below ground surface (bgs)

based on a recent soil boring drilled for determination of regional groundwater depth. During January 2020, WSP installed a soil boring (C-04387) within 0.5 miles of the Site utilizing a truck-mounted sonic drill rig. Soil boring C-04387 was drilled to a depth of 110 bgs. A WSP geologist logged and described soils continuously. No moisture or groundwater was encountered during drilling activities. The Well Record and Log is included in Attachment 1. The location of the borehole is approximately 0.35 miles southwest of the Site. 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 110 feet. The borehole was properly abandoned with hydrated bentonite chips. The location of borehole C-04387 is provided on Figure 1.

The closest continuously flowing water or significant watercourse to the Site is an intermittent streambed, located approximately 2.5 miles to the southwest 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 organic (DRO): 1,000 mg/kg
- Total Petroleum Hydrocarbons (TPH): 2,500 mg/kg
- Chloride: 20,000 mg/kg

SITE ASSESSMENT ACTIVITIES

On September 9, 2021, WSP personnel visited the Site to evaluate the release extent and conduct site assessment activities. WSP personnel advanced one borehole (BH01) via hand-auger near the tear in the liner identified during the liner inspection. Four additional boreholes (BH02 through BH05) were advanced via hand-auger around the lined containment to confirm the lateral extent of the release. Three soil samples were collected from borehole BH01 at depths of 0.5 feet, 1-foot, and 2 feet bgs. Two soil samples were collected from each borehole BH02 through BH05, at depths of approximately 0.5 feet and 1-foot bgs. Soil from the boreholes was field screened for volatile aromatic hydrocarbons and chloride utilizing a calibrated photo-

ionization detector (PID) and Hach® chloride QuanTab® test strips, respectively. Field screening results and observations from the boreholes were documented on lithologic/soil sampling logs which are included as Attachment 2. The boreholes were backfilled with the soil removed and XTO repaired the tear in the liner. The borehole delineation soil sample locations are depicted on Figure 2. Photographic documentation was conducted during the Site visit. The photographic log is included in Attachment 3.

The soil samples were placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody (COC) procedures to Eurofins Laboratories (Eurofins) in Carlsbad, New Mexico, for analysis of BTEX following United States Environmental Protection Agency (EPA) Method 8021B; TPH-gasoline range organics (GRO), TPH-diesel range organics (DRO), and TPH-oil range organics (ORO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.

SOIL ANALYTICAL RESULTS

Laboratory analytical results for delineation soil samples BH01, BH01A, and BH01B, collected directly below the tear in the liner, indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. Laboratory analytical results for borehole delineation soil samples BH02/BH02A through BH05/BH05A, collected around the lined containment, indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. In addition, all delineation soil samples were compliant with the most stringent 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

Following the failed liner integrity inspection at the Site, WSP personnel advanced one borehole (BH01) near the location of the tear in the liner and four additional boreholes (BH02 through BH05) around the lined containment to assess for the presence or absence of impacted soil resulting from the July 18, 2021 produced water release within lined containment. Delineation soil samples were collected from the boreholes from depths ranging from 0.5 feet to 2 feet bgs. Laboratory analytical results for the borehole delineation soil samples indicated that benzene, BTEX, TPH-GRO/TPH-DRO, TPH, and chloride concentrations were compliant with the Closure Criteria. In addition, the delineation soil samples were compliant with the most stringent Table 1 Closure Criteria. The release was contained laterally by the lined containment and all released fluids were recovered during initial response activities. The tear in the liner was subsequently repaired.

Based on initial response efforts, absence of elevated field screening results, and soil sample laboratory analytical results compliant with the Closure Criteria, XTO respectfully requests NFA for Incident Number NAPP2121164390.

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

Sincerely,

WSP USA Inc.

Kalei Jennings
Associate Consultant

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

cc: Adrian Baker, XTO
Ryan Mann, New Mexico State Land Office

Attachments:

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

FIGURES

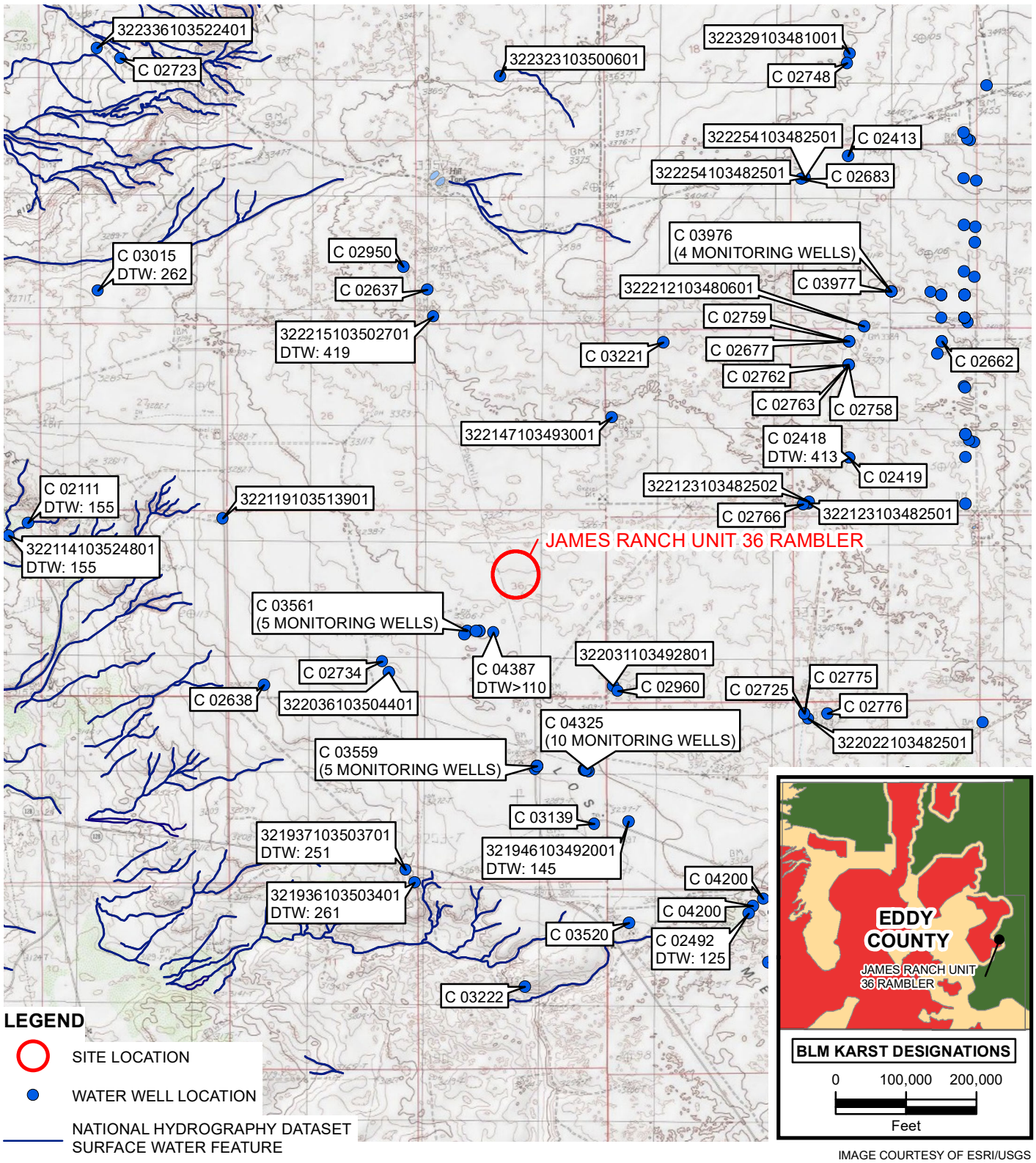
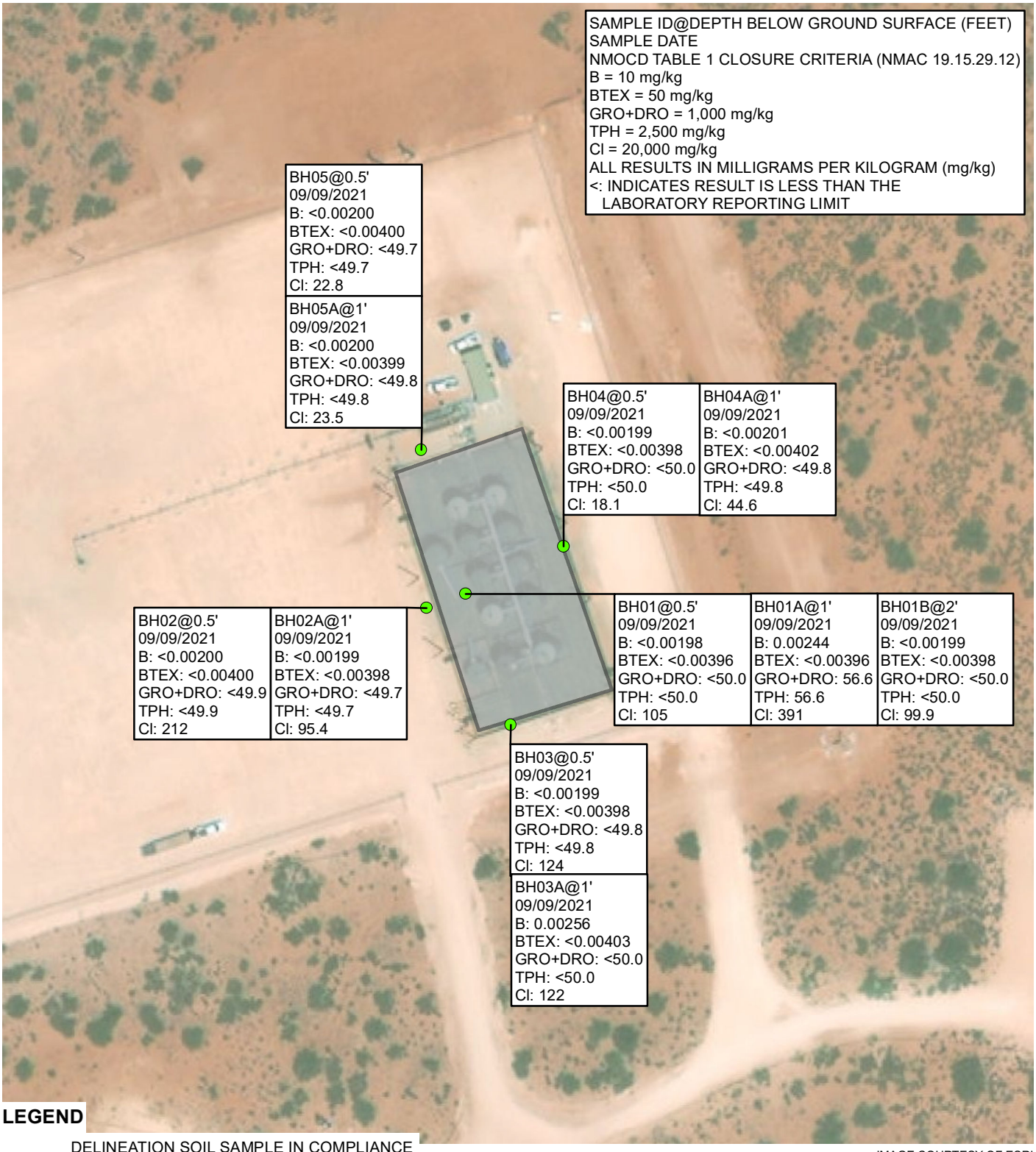


FIGURE 1
SITE LOCATION MAP
JAMES RANCH UNIT 36 RAMBLER
UNIT G SEC 36 T22S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC

P:\XTO Energy\GIS\31403236.022.0129_JRU 36 RAMBLER SWD\MXD\31403236.022.0129_FIG01_SL_RECEPTOR_2021.mxd



LEGEND

DELINEATION SOIL SAMPLE IN COMPLIANCE WITH APPLICABLE CLOSURE CRITERIA

LINED CONTAINMENT

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 NAPP2121164390

IMAGE COURTESY OF ESRI

0 100 200
Feet

N

FIGURE 2
DELINEATION SOIL SAMPLE LOCATIONS
JAMES RANCH UNIT 36 RAMBLER
UNIT G SEC 36 T22S R30E
EDDY COUNTY, NEW MEXICO
XTO ENERGY, INC.

P:\XTO Energy\GIS\31403236.022.0129_JRU 36 RAMBLER SWD\MXD\31403236.022.0129_FIG02_DELINEATION_2021_1.mxd

TABLES

Table 1

Soil Analytical Results
James Ranch Unit 36 Rambler
Incident Number NAPP2121164390
Eddy County, New Mexico
XTO Energy, Inc.

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
Delineation Soil Samples										
BH01	09/09/2021	0.5	<0.00198	<0.00396	<50.0	<50.0	<50.0	<50.0	<50.0	105
BH01A	09/09/2021	1	0.00244	<0.00396	56.6	<49.8	<49.8	56.6	56.6	391
BH01B	09/09/2021	2	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	99.9
BH02	09/09/2021	0.5	<0.00200	<0.00400	<49.9	<49.9	<49.9	<49.9	<49.9	212
BH02A	09/09/2021	1	<0.00199	<0.00398	<49.7	<49.7	<49.7	<49.7	<49.7	95.4
BH03	09/09/2021	0.5	<0.00199	<0.00398	<49.8	<49.8	<49.8	<49.8	<49.8	124
BH03A	09/09/2021	1	0.00256	<0.00403	<50.0	<50.0	<50.0	<50.0	<50.0	122
BH04	09/09/2021	0.5	<0.00199	<0.00398	<50.0	<50.0	<50.0	<50.0	<50.0	18.1
BH04A	09/09/2021	1	<0.00201	<0.00402	<49.8	<49.8	<49.8	<49.8	<49.8	44.6
BH05	09/09/2021	0.5	<0.00200	<0.00400	<49.7	<49.7	<49.7	<49.7	<49.7	22.8
BH05A	09/09/2021	1	<0.00200	<0.00399	<49.8	<49.8	<49.8	<49.8	<49.8	23.5

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

ATTACHMENT 1: REFERENCED WELL RECORD

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD 1	NA	C-04387

WELL OWNER NAME(S)	PHONE (OPTIONAL)
XTO Energy, Inc.	432-221-7331

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
6401 Holiday Hill Road	Midland	TX	79707

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	20	46.6	N
	LONGITUDE	103	50	9.29	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHJIP, RANGE) WHERE AVAILABLE

NESW Section 36, Township 22 South, Range 30 East, Eddy County, New Mexico

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1664		Cascade Drilling

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
1/18/2020	01/21/2020	NA	110	NA

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): NA

DRILLING FLUID: ☑ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☑ OTHER – SPECIFY: Sonic

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	110	6.5	Soil Boring	NA	NA	NA	NA

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 04/30/19)

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES **(attach supplemental sheets to fully describe all units)**	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	0.5	0.5	CALICHE, tan-off white, fill	Y ✔ N	
0.5	5	4.5	SAND, reddish brown, poorly graded, fine-very fine, dry	Y ✔ N	
5	12.5	7.5	CALICHE, tan-off white, few subangular gravel, dry, trace fine sand	Y ✔ N	
12.5	23	10.5	SAND, w/ silt, reddish-brown, dry, poorly graded, fine grain, few tan-off white s	Y ✔ N	
23	58	35	SILTSTONE, moderately consolidated, reddish brown, 2mm caliche inclusions,	Y ✔ N	
58	102	44	CLAYSTONE, dry, reddish brown low plasticity, cohesive, well consolidated, sc	Y ✔ N	
102	110	8	SILTSTONE, moist, reddish brown, no plasticity, non cohesive, poorly consolida	Y ✔ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☑ OTHER – SPECIFY: NA

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

WELL TEST — TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION: Soil boring backfilled with cuttings and hydrated bentonite chips. Log adapted from LTE on-site geologist.

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

6. SIGNATURE

BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED WELL. I ALSO CERTIFY THAT THE WELL TAG, IF REQUIRED, HAS BEEN INSTALLED AND THAT THIS WELL RECORD WILL ALSO BE FILED WITH THE PERMIT HOLDER WITHIN 30 DAYS AFTER THE COMPLETION OF WELL DRILLING.

SIGNATURE OF DRILLER / PRINT SIGNEE NAME _____ DATE _____

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 04/30/2019)

FILE NO.	POD NO.	TRN NO.	
LOCATION		WELL TAG ID NO.	PAGE 2 OF 2

ATTACHMENT 2: LITHOLOGIC/SAMPLING LOG

WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220	BH or PH Name: BH01	Date: 09/09/2021
	Site Name: JRU 36 Rambler SWD	
	RP or Incident Number: NAPP2121164390	
	WSP Job Number: 31403236.022.0129	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: EL	Method: Hand Auger
Lat/Long: (32.350952, -103.833646)	Field Screening: Hach chloride strips, PID	Hole Diameter: 2 Inches	Total Depth: 2 feet bgs

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M	319	1.2	Y	BH01	0.5	0.5	SM	SAND, LIGHT BROWN, WELL GRADED, SILTY, ABUNDANT CALICHE GRAVEL
M	526	1.4	N	BH01A	1	1	SM	SAND, LIGHT BROWN, WELL GRADED, SILTY, ABUNDANT CALICHE GRAVEL
M	644	0.4	N	BH01B	2	2	SC	SAND, DARK BROWN, POORLY GRADED, SOME CLAY, LOW PLASTICITY, COHESIVE, TRACE SILT

TD @ 2 ft bgs

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: BH02	Date: 09/09/2021
Site Name: JRU 36 Rambler SWD	
RP or Incident Number: NAPP2121164390	
WSP Job Number: 31403236.022.0129	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: EL / Method: Hand Auger
Lat/Long: (32.350925, -103.833737) / Field Screening: Hach chloride strips, PID	Hole Diameter: 2 Inches / Total Depth: 1 feet bgs

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M	268	0.0	N	BH02	0.5	0.5	SM	SAND, LIGHT BROWN, WELL GRADED, SILTY, ABUNDANT CALICHE GRAVEL
M	224	0.0	N	BH02A	1	1	SC	SAND, DARK BROWN, POORLY GRADED, SOME CLAY, LOW PLASTICITY, COHESIVE, TRACE SILT

TD @ 1 ft bgs

WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220	BH or PH Name: BH03	Date: 09/09/2021
	Site Name: JRU 36 Rambler SWD	
	RP or Incident Number: NAPP2121164390	
	WSP Job Number: 31403236.022.0129	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: EL	Method: Hand Auger
Lat/Long: (32.350698, -103.833544)	Field Screening: Hach chloride strips, PID	Hole Diameter: 2 Inches	Total Depth: 1 feet bgs

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M	<179	0.0	N	BH03	0.5	0.5	SM	SAND, LIGHT BROWN, WELL GRADED, SILTY, ABUNDANT CALICHE GRAVEL
M	268	0.0	N	BH03A	1	1	SM	SAND, LIGHT BROWN, WELL GRADED, SILTY, ABUNDANT CALICHE GRAVEL

TD @ 1 ft bgs

WSP USA 508 West Stevens Street Carlsbad, New Mexico 88220	BH or PH Name: BH04	Date: 09/09/2021
	Site Name: JRU 36 Rambler SWD	
	RP or Incident Number: NAPP2121164390	
	WSP Job Number: 31403236.022.0129	
LITHOLOGIC / SOIL SAMPLING LOG	Logged By: EL	Method: Hand Auger
Lat/Long: (32.351044, -103.833422)	Field Screening: Hach chloride strips, PID	Hole Diameter: 2 Inches	Total Depth: 1 feet bgs

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M	<179	0.0	N	BH04	0.5	0.5	SM	SAND, LIGHT BROWN, WELL GRADED, SILTY, ABUNDANT CALICHE GRAVEL
M	<179	0.0	N	BH04A	1	1	SM	SAND, LIGHT BROWN, WELL GRADED, SILTY, ABUNDANT CALICHE GRAVEL

TD @ 1 ft bgs

WSP USA
508 West Stevens Street
Carlsbad, New Mexico 88220

BH or PH Name: BH05	Date: 09/09/2021
Site Name: JRU 36 Rambler SWD	
RP or Incident Number: NAPP2121164390	
WSP Job Number: 31403236.022.0129	
Logged By: EL	Method: Hand Auger
Hole Diameter: 2 Inches	Total Depth: 1 feet bgs

LITHOLOGIC / SOIL SAMPLING LOG

Lat/Long: (32.351233, -103.833746)

Field Screening: Hach chloride strips, PID

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

Moisture Content	Chloride (ppm)	Vapor (ppm)	Staining	Sample #	Sample Depth (ft bgs)	Depth (ft bgs)	USCS/Rock Symbol	Lithology/Remarks
M	<179	0.1	N	BH05	0.5	0.5	SM	SAND, LIGHT BROWN, WELL GRADED, SILTY, ABUNDANT CALICHE GRAVEL
M	<179	0.0	N	BH05A	1	1	SC	SAND, DARK BROWN, POORLY GRADED, SOME CLAY, LOW PLASTICITY, TRACE SILT

TD @ 1 ft bgs

ATTACHMENT 3: PHOTOGRAPHIC LOG

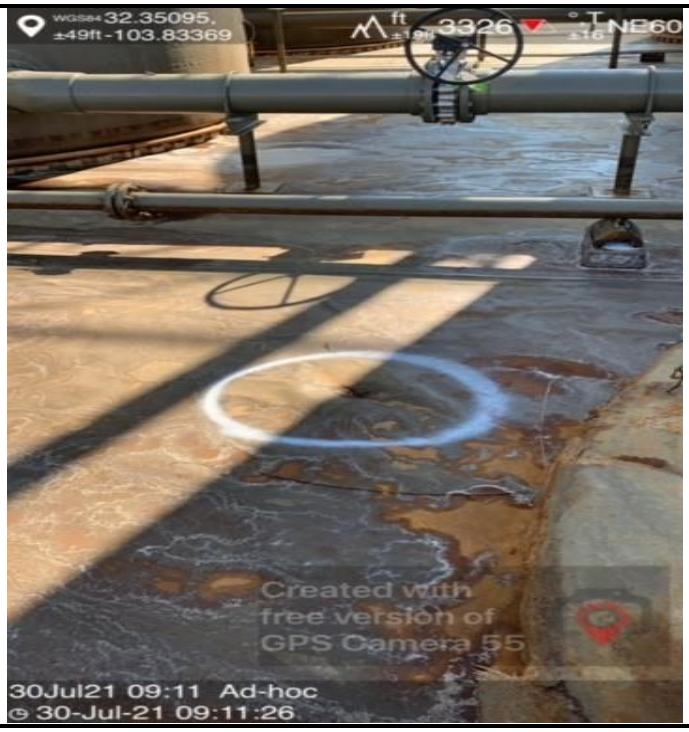
PHOTOGRAPHIC LOG		
XTO Energy, Inc.	**JAMES RANCH UNIT 36 RAMBLER** **Eddy County, New Mexico**	**31403236.012.0129**

Photo No.	**Date**
1	July 30,2021

XTO inspected the liner and indicated a compromised location in the liner.

Photo No.	**Date**
2	July 30, 2021

XTO inspected the liner and indicated a compromised location in the liner.



PHOTOGRAPHIC LOG		
XTO Energy, Inc.	JAMES RANCH UNIT 36 RAMBLER Eddy County, New Mexico	31403236.012.0129

Photo No.	Date
3	September 9, 2021

East facing view of BH02 outside of the containment.

Photo No.	Date
4	September 9, 2021

North facing view of BH04 outside of the containment area.

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: 890-1247-1
Laboratory Sample Delivery Group: 31403236.022.0129
Client Project/Site: JRU 36 Rambler SWD

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

Attn: Dan Moir

JKramer

Authorized for release by:
9/17/2021 8:19:22 AM

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

LINKS

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Have a Question? Ask The Expert

Visit us at:
www.eurofinsus.com/Env

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

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

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Laboratory Job ID: 890-1247-1
SDG: 31403236.022.0129

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-1247-1
Project/Site: JRU 36 Rambler SWD SDG: 31403236.022.0129

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, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc. Job ID: 890-1247-1
Project/Site: JRU 36 Rambler SWD SDG: 31403236.022.0129

Job ID: 890-1247-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1247-1

Receipt
The samples were received on 9/10/2021 12:53 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.4°C

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

GC Semi VOA
Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BH01 (890-1247-1), BH01A (890-1247-2), BH01B (890-1247-3), (LCS 880-7797/2-A) and (890-1239-A-1-B). Evidence of matrix interferences is not obvious.

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

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1247-1
SDG: 31403236.022.0129

Client Sample ID: BH01

Lab Sample ID: 890-1247-1
Matrix: Solid
Date Collected: 09/09/21 10:00
Date Received: 09/10/21 12:53
Sample Depth: 0.5

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00198	U	0.00198		mg/Kg		09/13/21 10:18	09/14/21 00:51	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/13/21 10:18	09/14/21 00:51	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/13/21 10:18	09/14/21 00:51	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		09/13/21 10:18	09/14/21 00:51	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		09/13/21 10:18	09/14/21 00:51	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		09/13/21 10:18	09/14/21 00:51	1
Total BTEX	<0.00396	U	0.00396		mg/Kg		09/13/21 10:18	09/14/21 00:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*09/13/21 10:18*	*09/14/21 00:51*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*09/13/21 10:18*	*09/14/21 00:51*	*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		09/13/21 12:00	09/13/21 18:51	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/13/21 12:00	09/13/21 18:51	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/13/21 12:00	09/13/21 18:51	1
Total TPH	<50.0	U	50.0		mg/Kg		09/13/21 12:00	09/13/21 18:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*123*		*70 - 130*	*09/13/21 12:00*	*09/13/21 18:51*	*1*
o-Terphenyl	*143*	*S1+*	*70 - 130*	*09/13/21 12:00*	*09/13/21 18:51*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**105**		25.0		mg/Kg			09/16/21 02:07	5

Client Sample ID: BH01A

Lab Sample ID: 890-1247-2
Matrix: Solid
Date Collected: 09/09/21 10:10
Date Received: 09/10/21 12:53
Sample Depth: 1

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00244**		0.00198		mg/Kg		09/13/21 10:18	09/14/21 01:12	1
Toluene	<0.00198	U	0.00198		mg/Kg		09/13/21 10:18	09/14/21 01:12	1
Ethylbenzene	<0.00198	U	0.00198		mg/Kg		09/13/21 10:18	09/14/21 01:12	1
m-Xylene & p-Xylene	<0.00396	U	0.00396		mg/Kg		09/13/21 10:18	09/14/21 01:12	1
o-Xylene	<0.00198	U	0.00198		mg/Kg		09/13/21 10:18	09/14/21 01:12	1
Xylenes, Total	<0.00396	U	0.00396		mg/Kg		09/13/21 10:18	09/14/21 01:12	1
Total BTEX	<0.00396	U	0.00396		mg/Kg		09/13/21 10:18	09/14/21 01:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*119*		*70 - 130*	*09/13/21 10:18*	*09/14/21 01:12*	*1*
1,4-Difluorobenzene (Surr)	*90*		*70 - 130*	*09/13/21 10:18*	*09/14/21 01:12*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1247-1
SDG: 31403236.022.0129

Client Sample ID: BH01A

Date Collected: 09/09/21 10:10
Date Received: 09/10/21 12:53
Sample Depth: 1

Lab Sample ID: 890-1247-2
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	<49.8	U	49.8		mg/Kg		09/13/21 12:00	09/13/21 19:12	1
Diesel Range Organics (Over C10-C28)	**56.6**		49.8		mg/Kg		09/13/21 12:00	09/13/21 19:12	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		09/13/21 12:00	09/13/21 19:12	1
Total TPH	**56.6**		49.8		mg/Kg		09/13/21 12:00	09/13/21 19:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*116*		*70 - 130*	*09/13/21 12:00*	*09/13/21 19:12*	*1*
o-Terphenyl	*133*	*S1+*	*70 - 130*	*09/13/21 12:00*	*09/13/21 19:12*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**391**		24.8		mg/Kg			09/16/21 02:24	5

Client Sample ID: BH01B

Date Collected: 09/09/21 10:30
Date Received: 09/10/21 12:53
Sample Depth: 2

Lab Sample ID: 890-1247-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/13/21 10:18	09/14/21 01:32	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/13/21 10:18	09/14/21 01:32	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/13/21 10:18	09/14/21 01:32	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/13/21 10:18	09/14/21 01:32	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/13/21 10:18	09/14/21 01:32	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/13/21 10:18	09/14/21 01:32	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		09/13/21 10:18	09/14/21 01:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*70 - 130*	*09/13/21 10:18*	*09/14/21 01:32*	*1*
1,4-Difluorobenzene (Surr)	*95*		*70 - 130*	*09/13/21 10:18*	*09/14/21 01:32*	*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		09/13/21 12:00	09/13/21 19:32	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/13/21 12:00	09/13/21 19:32	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/13/21 12:00	09/13/21 19:32	1
Total TPH	<50.0	U	50.0		mg/Kg		09/13/21 12:00	09/13/21 19:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*115*		*70 - 130*	*09/13/21 12:00*	*09/13/21 19:32*	*1*
o-Terphenyl	*133*	*S1+*	*70 - 130*	*09/13/21 12:00*	*09/13/21 19:32*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**99.9**		5.00		mg/Kg			09/16/21 02:30	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1247-1
SDG: 31403236.022.0129

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)
890-1241-A-21-C MS	Matrix Spike	126	78
890-1241-A-21-D MSD	Matrix Spike Duplicate	101	101
890-1247-1	BH01	115	104
890-1247-2	BH01A	119	90
890-1247-3	BH01B	105	95
LCS 880-7802/1-A	Lab Control Sample	98	98
LCSD 880-7802/2-A	Lab Control Sample Dup	98	99
MB 880-7802/5-A	Method Blank	124	109

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)
890-1239-A-1-C MS	Matrix Spike	114	118
890-1239-A-1-D MSD	Matrix Spike Duplicate	111	116
890-1247-1	BH01	123	143 S1+
890-1247-2	BH01A	116	133 S1+
890-1247-3	BH01B	115	133 S1+
LCS 880-7797/2-A	Lab Control Sample	127	131 S1+
LCSD 880-7797/3-A	Lab Control Sample Dup	116	118
MB 880-7797/1-A	Method Blank	102	111

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1247-1
SDG: 31403236.022.0129

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-7802/5-A
Matrix: Solid
Analysis Batch: 7820

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 7802

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/13/21 10:18	09/13/21 17:06	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/13/21 10:18	09/13/21 17:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/13/21 10:18	09/13/21 17:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/13/21 10:18	09/13/21 17:06	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/13/21 10:18	09/13/21 17:06	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/13/21 10:18	09/13/21 17:06	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		09/13/21 10:18	09/13/21 17:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*	*09/13/21 10:18*	*09/13/21 17:06*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*09/13/21 10:18*	*09/13/21 17:06*	*1*

Lab Sample ID: LCS 880-7802/1-A
Matrix: Solid
Analysis Batch: 7820

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7802

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.09562		mg/Kg		96	70 - 130		
Toluene			0.100	0.09515		mg/Kg		95	70 - 130		
Ethylbenzene			0.100	0.1017		mg/Kg		102	70 - 130		
m-Xylene & p-Xylene			0.200	0.1829		mg/Kg		91	70 - 130		
o-Xylene			0.100	0.09161		mg/Kg		92	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 880-7802/2-A
Matrix: Solid
Analysis Batch: 7820

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 7802

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.09300		mg/Kg		93	70 - 130	3	35
Toluene			0.100	0.1019		mg/Kg		102	70 - 130	7	35
Ethylbenzene			0.100	0.09909		mg/Kg		99	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.1777		mg/Kg		89	70 - 130	3	35
o-Xylene			0.100	0.09112		mg/Kg		91	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 890-1241-A-21-C MS
Matrix: Solid
Analysis Batch: 7820

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 7802

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00199	U	0.100	0.08471		mg/Kg		84	70 - 130		

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1247-1
SDG: 31403236.022.0129

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

Lab Sample ID: 890-1241-A-21-C MS
Matrix: Solid
Analysis Batch: 7820

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 7802

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	<0.00199	U	0.100	0.07912		mg/Kg		79	70 - 130
Ethylbenzene	<0.00199	U	0.100	0.09964		mg/Kg		98	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.201	0.1678		mg/Kg		83	70 - 130
o-Xylene	<0.00199	U	0.100	0.08330		mg/Kg		82	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*126*		*70 - 130*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*

Lab Sample ID: 890-1241-A-21-D MSD
Matrix: Solid
Analysis Batch: 7820

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 7802

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.100	0.08388		mg/Kg		84	70 - 130	1	35
Toluene	<0.00199	U	0.100	0.08548		mg/Kg		85	70 - 130	8	35
Ethylbenzene	<0.00199	U	0.100	0.08437		mg/Kg		82	70 - 130	17	35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1558		mg/Kg		77	70 - 130	7	35
o-Xylene	<0.00199	U	0.100	0.07695		mg/Kg		76	70 - 130	8	35

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

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

Lab Sample ID: MB 880-7797/1-A
Matrix: Solid
Analysis Batch: 7790

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 7797

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		09/13/21 09:36	09/13/21 10:45	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/13/21 09:36	09/13/21 10:45	1
OII Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/13/21 09:36	09/13/21 10:45	1
Total TPH	<50.0	U	50.0		mg/Kg		09/13/21 09:36	09/13/21 10:45	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*102*		*70 - 130*	*09/13/21 09:36*	*09/13/21 10:45*	*1*
o-Terphenyl	*111*		*70 - 130*	*09/13/21 09:36*	*09/13/21 10:45*	*1*

Lab Sample ID: LCS 880-7797/2-A
Matrix: Solid
Analysis Batch: 7790

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7797

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10			1000	985.0		mg/Kg		99	70 - 130

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1247-1
SDG: 31403236.022.0129

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

Lab Sample ID: LCS 880-7797/2-A
Matrix: Solid
Analysis Batch: 7790

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7797

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (Over C10-C28)			1000	1022		mg/Kg		102	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*127*		*70 - 130*
o-Terphenyl	*131*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-7797/3-A
Matrix: Solid
Analysis Batch: 7790

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 7797

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	1017		mg/Kg		102	70 - 130	3	20
Diesel Range Organics (Over C10-C28)			1000	916.9		mg/Kg		92	70 - 130	11	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*116*		*70 - 130*
o-Terphenyl	*118*		*70 - 130*

Lab Sample ID: 890-1239-A-1-C MS
Matrix: Solid
Analysis Batch: 7790

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 7797

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	997	1009		mg/Kg		101	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U	997	1009		mg/Kg		98	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*114*		*70 - 130*
o-Terphenyl	*118*		*70 - 130*

Lab Sample ID: 890-1239-A-1-D MSD
Matrix: Solid
Analysis Batch: 7790

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 7797

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	999	997.1		mg/Kg		100	70 - 130	1	20
Diesel Range Organics (Over C10-C28)	<49.8	U	999	998.3		mg/Kg		97	70 - 130	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*111*		*70 - 130*
o-Terphenyl	*116*		*70 - 130*

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1247-1
SDG: 31403236.022.0129

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-7805/1-A
Matrix: Solid
Analysis Batch: 7922

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			09/16/21 00:32	1

Lab Sample ID: LCS 880-7805/2-A
Matrix: Solid
Analysis Batch: 7922

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	254.9		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-7805/3-A
Matrix: Solid
Analysis Batch: 7922

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	255.6		mg/Kg		102	90 - 110	0	20

Lab Sample ID: 890-1247-1 MS
Matrix: Solid
Analysis Batch: 7922

Client Sample ID: BH01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	105		1240	1387		mg/Kg		103	90 - 110		

Lab Sample ID: 890-1247-1 MSD
Matrix: Solid
Analysis Batch: 7922

Client Sample ID: BH01
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	105		1240	1386		mg/Kg		103	90 - 110	0	20

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1247-1
Project/Site: JRU 36 Rambler SWD SDG: 31403236.022.0129

GC VOA

Prep Batch: 7802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1247-1	BH01	Total/NA	Solid	5035	
890-1247-2	BH01A	Total/NA	Solid	5035	
890-1247-3	BH01B	Total/NA	Solid	5035	
MB 880-7802/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-7802/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-7802/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1241-A-21-C MS	Matrix Spike	Total/NA	Solid	5035	
890-1241-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 7820

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1247-1	BH01	Total/NA	Solid	8021B	7802
890-1247-2	BH01A	Total/NA	Solid	8021B	7802
890-1247-3	BH01B	Total/NA	Solid	8021B	7802
MB 880-7802/5-A	Method Blank	Total/NA	Solid	8021B	7802
LCS 880-7802/1-A	Lab Control Sample	Total/NA	Solid	8021B	7802
LCSD 880-7802/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	7802
890-1241-A-21-C MS	Matrix Spike	Total/NA	Solid	8021B	7802
890-1241-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	7802

GC Semi VOA

Analysis Batch: 7790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1247-1	BH01	Total/NA	Solid	8015B NM	7797
890-1247-2	BH01A	Total/NA	Solid	8015B NM	7797
890-1247-3	BH01B	Total/NA	Solid	8015B NM	7797
MB 880-7797/1-A	Method Blank	Total/NA	Solid	8015B NM	7797
LCS 880-7797/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	7797
LCSD 880-7797/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	7797
890-1239-A-1-C MS	Matrix Spike	Total/NA	Solid	8015B NM	7797
890-1239-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	7797

Prep Batch: 7797

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1247-1	BH01	Total/NA	Solid	8015NM Prep	
890-1247-2	BH01A	Total/NA	Solid	8015NM Prep	
890-1247-3	BH01B	Total/NA	Solid	8015NM Prep	
MB 880-7797/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-7797/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-7797/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
890-1239-A-1-C MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
890-1239-A-1-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

HPLC/IC

Leach Batch: 7805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1247-1	BH01	Soluble	Solid	DI Leach	
890-1247-2	BH01A	Soluble	Solid	DI Leach	
890-1247-3	BH01B	Soluble	Solid	DI Leach	
MB 880-7805/1-A	Method Blank	Soluble	Solid	DI Leach	

QC Association Summary

Client: WSP USA Inc. Job ID: 890-1247-1
Project/Site: JRU 36 Rambler SWD SDG: 31403236.022.0129

HPLC/IC (Continued)

Leach Batch: 7805 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-7805/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-7805/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1247-1 MS	BH01	Soluble	Solid	DI Leach	
890-1247-1 MSD	BH01	Soluble	Solid	DI Leach	

Analysis Batch: 7922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1247-1	BH01	Soluble	Solid	300.0	7805
890-1247-2	BH01A	Soluble	Solid	300.0	7805
890-1247-3	BH01B	Soluble	Solid	300.0	7805
MB 880-7805/1-A	Method Blank	Soluble	Solid	300.0	7805
LCS 880-7805/2-A	Lab Control Sample	Soluble	Solid	300.0	7805
LCSD 880-7805/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	7805
890-1247-1 MS	BH01	Soluble	Solid	300.0	7805
890-1247-1 MSD	BH01	Soluble	Solid	300.0	7805

Lab Chronicle

Client: WSP USA Inc. Job ID: 890-1247-1
Project/Site: JRU 36 Rambler SWD SDG: 31403236.022.0129

Client Sample ID: BH01 Lab Sample ID: 890-1247-1

Date Collected: 09/09/21 10:00 **Matrix: Solid**
Date Received: 09/10/21 12:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7802	09/13/21 10:18	KL	XEN MID
Total/NA	Analysis	8021B		1	7820	09/14/21 00:51	KL	XEN MID
Total/NA	Prep	8015NM Prep			7797	09/13/21 12:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1	7790	09/13/21 18:51	AJ	XEN MID
Soluble	Leach	DI Leach			7805	09/13/21 10:32	CH	XEN MID
Soluble	Analysis	300.0		5	7922	09/16/21 02:07	CH	XEN MID

Client Sample ID: BH01A Lab Sample ID: 890-1247-2

Date Collected: 09/09/21 10:10 **Matrix: Solid**
Date Received: 09/10/21 12:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7802	09/13/21 10:18	KL	XEN MID
Total/NA	Analysis	8021B		1	7820	09/14/21 01:12	KL	XEN MID
Total/NA	Prep	8015NM Prep			7797	09/13/21 12:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1	7790	09/13/21 19:12	AJ	XEN MID
Soluble	Leach	DI Leach			7805	09/13/21 10:32	CH	XEN MID
Soluble	Analysis	300.0		5	7922	09/16/21 02:24	CH	XEN MID

Client Sample ID: BH01B Lab Sample ID: 890-1247-3

Date Collected: 09/09/21 10:30 **Matrix: Solid**
Date Received: 09/10/21 12:53

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7802	09/13/21 10:18	KL	XEN MID
Total/NA	Analysis	8021B		1	7820	09/14/21 01:32	KL	XEN MID
Total/NA	Prep	8015NM Prep			7797	09/13/21 12:00	DM	XEN MID
Total/NA	Analysis	8015B NM		1	7790	09/13/21 19:32	AJ	XEN MID
Soluble	Leach	DI Leach			7805	09/13/21 10:32	CH	XEN MID
Soluble	Analysis	300.0		1	7922	09/16/21 02:30	CH	XEN MID

Laboratory References:

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

Accreditation/Certification Summary

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1247-1
SDG: 31403236.022.0129

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	T104704400-21-22	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

Method Summary

Client: WSP USA Inc. Job ID: 890-1247-1
Project/Site: JRU 36 Rambler SWD SDG: 31403236.022.0129

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: JRU 36 Rambler SWD

Job ID: 890-1247-1
SDG: 31403236.022.0129

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1247-1	BH01	Solid	09/09/21 10:00	09/10/21 12:53	0.5
890-1247-2	BH01A	Solid	09/09/21 10:10	09/10/21 12:53	1
890-1247-3	BH01B	Solid	09/09/21 10:30	09/10/21 12:53	2

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Chain of Custody

Work Order No: _____

XENCO LABORATORIES

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

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Project Manager:	Dan Moir	Bill to: (if different)	Adrian Baker
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, Kalei.Jennings@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:	JRU 36 Rambler SWD	Turn Around	
Project Number:	31403236.022.0129	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	T-NM-007	
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

890-1247 Chain of Custody

Work Order Notes

Cost Center # 1942421001
Incident # NAPP2121164390

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
BH01	S	9/9/2021	10:00	0.5'	1	X	X	X	Discrete
BH01A	S	9/9/2021	10:10	1'	1	X	X	X	Discrete
BH01B	S	9/9/2021	10:30	2'	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

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of $75.00 will be applied to each project and a charge of $5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1	N. Olsen	9/10/21 12:53	2		
3			4		
5			6		

Revised Date 051418 Rev 2018 1

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9/17/2021

Received by OCD: 10/14/2021 12:47:31 PM

Released to Imaging: 3/1/2022 11:06:17 AM

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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: 890-403 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 #: 890-1247-1
Address: 1211 W Florida Ave	Due Date Requested: 9/16/2021			
City: Midland	TAT Requested (days):			
State, Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: JRU 36 Rambler SWD	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)	300_ORGFM_28D/DI_LEACH Chloride	8015MOD_NM/8015NM_S_Prep Full TPH	8021B/5035FP_Calc BTEX	Total Number of containers	Special Instructions/Note
			Preservation Code:								
BH01 (890-1247-1)	9/9/21	10 00 Mountain		Solid			X	X	X	1	
BH01A (890-1247-2)	9/9/21	10 10 Mountain		Solid			X	X	X	1	
BH01B (890-1247-3)	9/9/21	10 30 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 Cruz 9.10.21	Date/Time:	Company	Received by:	Date/Time: 9-13-21 9:30 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. ∆ Yes ∆ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks. 2.1 2.0

Ver: 06/08/2021

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9/17/2021

Received by OCD: 10/14/2021 12:47:31 PM

Released to Imaging: 3/1/2022 11:06:17 AM

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1247-1
SDG Number: 31403236.022.0129

Login Number: 1247
List Number: 1
Creator: Clifton, Cloe

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: 890-1247-1
SDG Number: 31403236.022.0129

Login Number: 1247
List Number: 2
Creator: Copeland, Tatiana

List Source: Eurofins Xenco, Midland
List Creation: 09/13/21 09:30 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	2.1 / 2.6
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: 890-1248-1
Laboratory Sample Delivery Group: 31403236.022.0129
Client Project/Site: JRU 36 Rambler SWD
Revision: 1

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

Attn: Dan Moir

JKramer

Authorized for release by:
9/23/2021 3:28:26 PM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

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

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

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Laboratory Job ID: 890-1248-1
SDG: 31403236.022.0129

Table of Contents

Definitions/Glossary

Client: WSP USA Inc. Job ID: 890-1248-1
Project/Site: JRU 36 Rambler SWD SDG: 31403236.022.0129

Qualifiers

GC VOA

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

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

HPLC/IC

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

Glossary

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

Case Narrative

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1248-1
SDG: 31403236.022.0129

Job ID: 890-1248-1

Laboratory: Eurofins Xenco, Carlsbad

Narrative

Job Narrative
890-1248-1

REVISION

The report being provided is a revision of the original report sent on 9/17/2021. The report (revision 1) is being revised due to Per client request, re run sample 008 for chloride only.

Report revision history

Receipt
The samples were received on 9/10/2021 12:53 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.4°C

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

GC Semi VOA
Method 8015MOD_NM: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for preparation batch 880-7733 and analytical batch 880-7794 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.

Method 8015MOD_NM: Surrogate recovery for the following samples were outside control limits: BH02 (890-1248-1), BH02A (890-1248-2), BH03 (890-1248-3), BH03A (890-1248-4), BH04 (890-1248-5), BH04A (890-1248-6), BH05 (890-1248-7), BH05A (890-1248-8), (LCS 880-7733/2-A), (LCSD 880-7733/3-A), (MB 880-7733/1-A), (880-5966-A-1-C) and (880-5966-A-1-D MS). Evidence of matrix interferences is not obvious.

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

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

Client Sample Results

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1248-1
SDG: 31403236.022.0129

Client Sample ID: BH02

Date Collected: 09/09/21 12:50
Date Received: 09/10/21 12:53
Sample Depth: 0.5

Lab Sample ID: 890-1248-1
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/13/21 10:18	09/13/21 18:57	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/13/21 10:18	09/13/21 18:57	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/13/21 10:18	09/13/21 18:57	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/13/21 10:18	09/13/21 18:57	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/13/21 10:18	09/13/21 18:57	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/13/21 10:18	09/13/21 18:57	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		09/13/21 10:18	09/13/21 18:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*70 - 130*	*09/13/21 10:18*	*09/13/21 18:57*	*1*
1,4-Difluorobenzene (Surr)	*100*		*70 - 130*	*09/13/21 10:18*	*09/13/21 18:57*	*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		09/13/21 09:17	09/13/21 18:55	1
Diesel Range Organics (Over C10-C28)	<49.9	U	49.9		mg/Kg		09/13/21 09:17	09/13/21 18:55	1
Oil Range Organics (Over C28-C36)	<49.9	U	49.9		mg/Kg		09/13/21 09:17	09/13/21 18:55	1
Total TPH	<49.9	U	49.9		mg/Kg		09/13/21 09:17	09/13/21 18:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*142*	*S1+*	*70 - 130*	*09/13/21 09:17*	*09/13/21 18:55*	*1*
o-Terphenyl	*160*	*S1+*	*70 - 130*	*09/13/21 09:17*	*09/13/21 18:55*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**212**		24.9		mg/Kg			09/16/21 02:47	5

Client Sample ID: BH02A

Date Collected: 09/09/21 13:05
Date Received: 09/10/21 12:53
Sample Depth: 1

Lab Sample ID: 890-1248-2
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/13/21 10:18	09/13/21 19:17	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/13/21 10:18	09/13/21 19:17	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/13/21 10:18	09/13/21 19:17	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/13/21 10:18	09/13/21 19:17	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/13/21 10:18	09/13/21 19:17	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/13/21 10:18	09/13/21 19:17	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		09/13/21 10:18	09/13/21 19:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*115*		*70 - 130*	*09/13/21 10:18*	*09/13/21 19:17*	*1*
1,4-Difluorobenzene (Surr)	*101*		*70 - 130*	*09/13/21 10:18*	*09/13/21 19:17*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1248-1
SDG: 31403236.022.0129

Client Sample ID: BH02A
Date Collected: 09/09/21 13:05
Date Received: 09/10/21 12:53
Sample Depth: 1

Lab Sample ID: 890-1248-2
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	<49.7	U	49.7		mg/Kg		09/13/21 09:17	09/13/21 19:16	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		09/13/21 09:17	09/13/21 19:16	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		09/13/21 09:17	09/13/21 19:16	1
Total TPH	<49.7	U	49.7		mg/Kg		09/13/21 09:17	09/13/21 19:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*128*		*70 - 130*	*09/13/21 09:17*	*09/13/21 19:16*	*1*
o-Terphenyl	*142*	*S1+*	*70 - 130*	*09/13/21 09:17*	*09/13/21 19:16*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**95.4**		4.99		mg/Kg			09/16/21 02:52	1

Client Sample ID: BH03
Date Collected: 09/09/21 13:30
Date Received: 09/10/21 12:53
Sample Depth: 0.5

Lab Sample ID: 890-1248-3
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/13/21 10:18	09/13/21 19:38	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/13/21 10:18	09/13/21 19:38	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/13/21 10:18	09/13/21 19:38	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/13/21 10:18	09/13/21 19:38	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/13/21 10:18	09/13/21 19:38	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/13/21 10:18	09/13/21 19:38	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		09/13/21 10:18	09/13/21 19:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*09/13/21 10:18*	*09/13/21 19:38*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*09/13/21 10:18*	*09/13/21 19:38*	*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		09/13/21 09:17	09/13/21 19:37	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		09/13/21 09:17	09/13/21 19:37	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		09/13/21 09:17	09/13/21 19:37	1
Total TPH	<49.8	U	49.8		mg/Kg		09/13/21 09:17	09/13/21 19:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*09/13/21 09:17*	*09/13/21 19:37*	*1*
o-Terphenyl	*150*	*S1+*	*70 - 130*	*09/13/21 09:17*	*09/13/21 19:37*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**124**		25.1		mg/Kg			09/16/21 02:58	5

Eurofins Xenco, Carlsbad

Client Sample Results

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1248-1
SDG: 31403236.022.0129

Client Sample ID: BH03A
Date Collected: 09/09/21 13:45
Date Received: 09/10/21 12:53
Sample Depth: 1

Lab Sample ID: 890-1248-4
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00256**		0.00202		mg/Kg		09/13/21 10:18	09/13/21 19:58	1
Toluene	<0.00202	U	0.00202		mg/Kg		09/13/21 10:18	09/13/21 19:58	1
Ethylbenzene	<0.00202	U	0.00202		mg/Kg		09/13/21 10:18	09/13/21 19:58	1
m-Xylene & p-Xylene	<0.00403	U	0.00403		mg/Kg		09/13/21 10:18	09/13/21 19:58	1
o-Xylene	<0.00202	U	0.00202		mg/Kg		09/13/21 10:18	09/13/21 19:58	1
Xylenes, Total	<0.00403	U	0.00403		mg/Kg		09/13/21 10:18	09/13/21 19:58	1
Total BTEX	<0.00403	U	0.00403		mg/Kg		09/13/21 10:18	09/13/21 19:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*110*		*70 - 130*	*09/13/21 10:18*	*09/13/21 19:58*	*1*
1,4-Difluorobenzene (Surr)	*107*		*70 - 130*	*09/13/21 10:18*	*09/13/21 19:58*	*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	<50.0	U	50.0		mg/Kg		09/13/21 09:17	09/13/21 19:58	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/13/21 09:17	09/13/21 19:58	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/13/21 09:17	09/13/21 19:58	1
Total TPH	<50.0	U	50.0		mg/Kg		09/13/21 09:17	09/13/21 19:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*130*		*70 - 130*	*09/13/21 09:17*	*09/13/21 19:58*	*1*
o-Terphenyl	*145*	*S1+*	*70 - 130*	*09/13/21 09:17*	*09/13/21 19:58*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**122**		5.05		mg/Kg			09/16/21 03:03	1

Client Sample ID: BH04
Date Collected: 09/09/21 13:55
Date Received: 09/10/21 12:53
Sample Depth: 0.5

Lab Sample ID: 890-1248-5
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00199	U	0.00199		mg/Kg		09/13/21 10:18	09/13/21 20:19	1
Toluene	<0.00199	U	0.00199		mg/Kg		09/13/21 10:18	09/13/21 20:19	1
Ethylbenzene	<0.00199	U	0.00199		mg/Kg		09/13/21 10:18	09/13/21 20:19	1
m-Xylene & p-Xylene	<0.00398	U	0.00398		mg/Kg		09/13/21 10:18	09/13/21 20:19	1
o-Xylene	<0.00199	U	0.00199		mg/Kg		09/13/21 10:18	09/13/21 20:19	1
Xylenes, Total	<0.00398	U	0.00398		mg/Kg		09/13/21 10:18	09/13/21 20:19	1
Total BTEX	<0.00398	U	0.00398		mg/Kg		09/13/21 10:18	09/13/21 20:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*70 - 130*	*09/13/21 10:18*	*09/13/21 20:19*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*09/13/21 10:18*	*09/13/21 20:19*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1248-1
SDG: 31403236.022.0129

Client Sample ID: BH04
Date Collected: 09/09/21 13:55
Date Received: 09/10/21 12:53
Sample Depth: 0.5

Lab Sample ID: 890-1248-5
Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<50.0	U	50.0		mg/Kg		09/13/21 09:17	09/13/21 20:19	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/13/21 09:17	09/13/21 20:19	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/13/21 09:17	09/13/21 20:19	1
Total TPH	<50.0	U	50.0		mg/Kg		09/13/21 09:17	09/13/21 20:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*133*	*S1+*	*70 - 130*	*09/13/21 09:17*	*09/13/21 20:19*	*1*
o-Terphenyl	*148*	*S1+*	*70 - 130*	*09/13/21 09:17*	*09/13/21 20:19*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**18.1**		4.98		mg/Kg			09/16/21 10:16	1

Client Sample ID: BH04A
Date Collected: 09/09/21 14:05
Date Received: 09/10/21 12:53
Sample Depth: 1

Lab Sample ID: 890-1248-6
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00201	U	0.00201		mg/Kg		09/13/21 10:18	09/13/21 20:39	1
Toluene	<0.00201	U	0.00201		mg/Kg		09/13/21 10:18	09/13/21 20:39	1
Ethylbenzene	<0.00201	U	0.00201		mg/Kg		09/13/21 10:18	09/13/21 20:39	1
m-Xylene & p-Xylene	<0.00402	U	0.00402		mg/Kg		09/13/21 10:18	09/13/21 20:39	1
o-Xylene	<0.00201	U	0.00201		mg/Kg		09/13/21 10:18	09/13/21 20:39	1
Xylenes, Total	<0.00402	U	0.00402		mg/Kg		09/13/21 10:18	09/13/21 20:39	1
Total BTEX	<0.00402	U	0.00402		mg/Kg		09/13/21 10:18	09/13/21 20:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*70 - 130*	*09/13/21 10:18*	*09/13/21 20:39*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*09/13/21 10:18*	*09/13/21 20:39*	*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	<49.8	U	49.8		mg/Kg		09/13/21 09:17	09/13/21 20:40	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		09/13/21 09:17	09/13/21 20:40	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		09/13/21 09:17	09/13/21 20:40	1
Total TPH	<49.8	U	49.8		mg/Kg		09/13/21 09:17	09/13/21 20:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*128*		*70 - 130*	*09/13/21 09:17*	*09/13/21 20:40*	*1*
o-Terphenyl	*146*	*S1+*	*70 - 130*	*09/13/21 09:17*	*09/13/21 20:40*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**44.6**		4.95		mg/Kg			09/16/21 03:15	1

Client Sample Results

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1248-1
SDG: 31403236.022.0129

Client Sample ID: BH05

Date Collected: 09/09/21 14:15
Date Received: 09/10/21 12:53
Sample Depth: 0.5

Lab Sample ID: 890-1248-7
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/13/21 10:18	09/13/21 22:29	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/13/21 10:18	09/13/21 22:29	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/13/21 10:18	09/13/21 22:29	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/13/21 10:18	09/13/21 22:29	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/13/21 10:18	09/13/21 22:29	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/13/21 10:18	09/13/21 22:29	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		09/13/21 10:18	09/13/21 22:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*70 - 130*	*09/13/21 10:18*	*09/13/21 22:29*	*1*
1,4-Difluorobenzene (Surr)	*108*		*70 - 130*	*09/13/21 10:18*	*09/13/21 22:29*	*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	<49.7	U	49.7		mg/Kg		09/13/21 09:17	09/13/21 21:01	1
Diesel Range Organics (Over C10-C28)	<49.7	U	49.7		mg/Kg		09/13/21 09:17	09/13/21 21:01	1
Oil Range Organics (Over C28-C36)	<49.7	U	49.7		mg/Kg		09/13/21 09:17	09/13/21 21:01	1
Total TPH	<49.7	U	49.7		mg/Kg		09/13/21 09:17	09/13/21 21:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*129*		*70 - 130*	*09/13/21 09:17*	*09/13/21 21:01*	*1*
o-Terphenyl	*146*	*S1+*	*70 - 130*	*09/13/21 09:17*	*09/13/21 21:01*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**22.8**		5.00		mg/Kg			09/16/21 03:20	1

Client Sample ID: BH05A

Date Collected: 09/09/21 14:25
Date Received: 09/10/21 12:53
Sample Depth: 1

Lab Sample ID: 890-1248-8
Matrix: Solid

Method: 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/13/21 10:18	09/13/21 22:49	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/13/21 10:18	09/13/21 22:49	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/13/21 10:18	09/13/21 22:49	1
m-Xylene & p-Xylene	<0.00399	U	0.00399		mg/Kg		09/13/21 10:18	09/13/21 22:49	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/13/21 10:18	09/13/21 22:49	1
Xylenes, Total	<0.00399	U	0.00399		mg/Kg		09/13/21 10:18	09/13/21 22:49	1
Total BTEX	<0.00399	U	0.00399		mg/Kg		09/13/21 10:18	09/13/21 22:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*70 - 130*	*09/13/21 10:18*	*09/13/21 22:49*	*1*
1,4-Difluorobenzene (Surr)	*104*		*70 - 130*	*09/13/21 10:18*	*09/13/21 22:49*	*1*

Client Sample Results

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1248-1
SDG: 31403236.022.0129

Client Sample ID: BH05A

Date Collected: 09/09/21 14:25
Date Received: 09/10/21 12:53
Sample Depth: 1

Lab Sample ID: 890-1248-8

Matrix: Solid

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

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	49.8		mg/Kg		09/13/21 09:17	09/13/21 21:22	1
Diesel Range Organics (Over C10-C28)	<49.8	U	49.8		mg/Kg		09/13/21 09:17	09/13/21 21:22	1
Oil Range Organics (Over C28-C36)	<49.8	U	49.8		mg/Kg		09/13/21 09:17	09/13/21 21:22	1
Total TPH	<49.8	U	49.8		mg/Kg		09/13/21 09:17	09/13/21 21:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*126*		*70 - 130*	*09/13/21 09:17*	*09/13/21 21:22*	*1*
o-Terphenyl	*143*	*S1+*	*70 - 130*	*09/13/21 09:17*	*09/13/21 21:22*	*1*

Method: 300.0 - Anions, Ion Chromatography - Soluble

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**23.5**		4.97		mg/Kg			09/21/21 05:45	1

Surrogate Summary

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1248-1
SDG: 31403236.022.0129

Method: 8021B - Volatile Organic Compounds (GC)

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	BFB1 (70-130)	DFBZ1 (70-130)
890-1241-A-21-C MS	Matrix Spike	126	78
890-1241-A-21-D MSD	Matrix Spike Duplicate	101	101
890-1248-1	BH02	106	100
890-1248-2	BH02A	115	101
890-1248-3	BH03	113	108
890-1248-4	BH03A	110	107
890-1248-5	BH04	113	109
890-1248-6	BH04A	108	109
890-1248-7	BH05	107	108
890-1248-8	BH05A	109	104
LCS 880-7802/1-A	Lab Control Sample	98	98
LCSD 880-7802/2-A	Lab Control Sample Dup	98	99
MB 880-7802/5-A	Method Blank	124	109

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DFBZ = 1,4-Difluorobenzene (Surr)

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

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

		Percent Surrogate Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	1CO1 (70-130)	OTPH1 (70-130)
880-5966-A-1-D MS	Matrix Spike	139 S1+	131 S1+
880-5966-A-1-E MSD	Matrix Spike Duplicate	125	118
890-1248-1	BH02	142 S1+	160 S1+
890-1248-2	BH02A	128	142 S1+
890-1248-3	BH03	133 S1+	150 S1+
890-1248-4	BH03A	130	145 S1+
890-1248-5	BH04	133 S1+	148 S1+
890-1248-6	BH04A	128	146 S1+
890-1248-7	BH05	129	146 S1+
890-1248-8	BH05A	126	143 S1+
LCS 880-7733/2-A	Lab Control Sample	142 S1+	139 S1+
LCSD 880-7733/3-A	Lab Control Sample Dup	145 S1+	142 S1+
MB 880-7733/1-A	Method Blank	129	145 S1+

Surrogate Legend

1CO = 1-Chlorooctane
OTPH = o-Terphenyl

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1248-1
SDG: 31403236.022.0129

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 880-7802/5-A
Matrix: Solid
Analysis Batch: 7820

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 7802

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00200	U	0.00200		mg/Kg		09/13/21 10:18	09/13/21 17:06	1
Toluene	<0.00200	U	0.00200		mg/Kg		09/13/21 10:18	09/13/21 17:06	1
Ethylbenzene	<0.00200	U	0.00200		mg/Kg		09/13/21 10:18	09/13/21 17:06	1
m-Xylene & p-Xylene	<0.00400	U	0.00400		mg/Kg		09/13/21 10:18	09/13/21 17:06	1
o-Xylene	<0.00200	U	0.00200		mg/Kg		09/13/21 10:18	09/13/21 17:06	1
Xylenes, Total	<0.00400	U	0.00400		mg/Kg		09/13/21 10:18	09/13/21 17:06	1
Total BTEX	<0.00400	U	0.00400		mg/Kg		09/13/21 10:18	09/13/21 17:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*124*		*70 - 130*	*09/13/21 10:18*	*09/13/21 17:06*	*1*
1,4-Difluorobenzene (Surr)	*109*		*70 - 130*	*09/13/21 10:18*	*09/13/21 17:06*	*1*

Lab Sample ID: LCS 880-7802/1-A
Matrix: Solid
Analysis Batch: 7820

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7802

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.100	0.09562		mg/Kg		96	70 - 130		
Toluene			0.100	0.09515		mg/Kg		95	70 - 130		
Ethylbenzene			0.100	0.1017		mg/Kg		102	70 - 130		
m-Xylene & p-Xylene			0.200	0.1829		mg/Kg		91	70 - 130		
o-Xylene			0.100	0.09161		mg/Kg		92	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*98*		*70 - 130*

Lab Sample ID: LCSD 880-7802/2-A
Matrix: Solid
Analysis Batch: 7820

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 7802

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene			0.100	0.09300		mg/Kg		93	70 - 130	3	35
Toluene			0.100	0.1019		mg/Kg		102	70 - 130	7	35
Ethylbenzene			0.100	0.09909		mg/Kg		99	70 - 130	3	35
m-Xylene & p-Xylene			0.200	0.1777		mg/Kg		89	70 - 130	3	35
o-Xylene			0.100	0.09112		mg/Kg		91	70 - 130	1	35

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*70 - 130*
1,4-Difluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: 890-1241-A-21-C MS
Matrix: Solid
Analysis Batch: 7820

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 7802

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00199	U	0.100	0.08471		mg/Kg		84	70 - 130		

Eurofins Xenco, Carlsbad

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1248-1
SDG: 31403236.022.0129

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

Lab Sample ID: 890-1241-A-21-C MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 7820 — **Prep Batch: 7802**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	<0.00199	U	0.100	0.07912		mg/Kg		79	70 - 130
Ethylbenzene	<0.00199	U	0.100	0.09964		mg/Kg		98	70 - 130
m-Xylene & p-Xylene	<0.00398	U	0.201	0.1678		mg/Kg		83	70 - 130
o-Xylene	<0.00199	U	0.100	0.08330		mg/Kg		82	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*126*		*70 - 130*
1,4-Difluorobenzene (Surr)	*78*		*70 - 130*

Lab Sample ID: 890-1241-A-21-D MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 7820 — **Prep Batch: 7802**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00199	U	0.100	0.08388		mg/Kg		84	70 - 130	1	35
Toluene	<0.00199	U	0.100	0.08548		mg/Kg		85	70 - 130	8	35
Ethylbenzene	<0.00199	U	0.100	0.08437		mg/Kg		82	70 - 130	17	35
m-Xylene & p-Xylene	<0.00398	U	0.200	0.1558		mg/Kg		77	70 - 130	7	35
o-Xylene	<0.00199	U	0.100	0.07695		mg/Kg		76	70 - 130	8	35

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

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

Lab Sample ID: MB 880-7733/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 7794 — **Prep Batch: 7733**

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		09/10/21 09:17	09/13/21 12:28	1
Diesel Range Organics (Over C10-C28)	<50.0	U	50.0		mg/Kg		09/10/21 09:17	09/13/21 12:28	1
Oil Range Organics (Over C28-C36)	<50.0	U	50.0		mg/Kg		09/10/21 09:17	09/13/21 12:28	1
Total TPH	<50.0	U	50.0		mg/Kg		09/10/21 09:17	09/13/21 12:28	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1-Chlorooctane	*129*		*70 - 130*	*09/10/21 09:17*	*09/13/21 12:28*	*1*
o-Terphenyl	*145*	*S1+*	*70 - 130*	*09/10/21 09:17*	*09/13/21 12:28*	*1*

Lab Sample ID: LCS 880-7733/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 7794 — **Prep Batch: 7733**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Gasoline Range Organics (GRO)-C6-C10			1000	967.2		mg/Kg		97	70 - 130

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1248-1
SDG: 31403236.022.0129

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

Lab Sample ID: LCS 880-7733/2-A
Matrix: Solid
Analysis Batch: 7794

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7733

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Diesel Range Organics (Over C10-C28)			1000	1178		mg/Kg		118	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1-Chlorooctane	*142*	*S1+*	*70 - 130*
o-Terphenyl	*139*	*S1+*	*70 - 130*

Lab Sample ID: LCSD 880-7733/3-A
Matrix: Solid
Analysis Batch: 7794

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 7733

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10			1000	965.2		mg/Kg		97	70 - 130	0	20
Diesel Range Organics (Over C10-C28)			1000	1193		mg/Kg		119	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1-Chlorooctane	*145*	*S1+*	*70 - 130*
o-Terphenyl	*142*	*S1+*	*70 - 130*

Lab Sample ID: 880-5966-A-1-D MS
Matrix: Solid
Analysis Batch: 7794

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 7733

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	997	1047		mg/Kg		104	70 - 130		
Diesel Range Organics (Over C10-C28)	<49.8	U F1	997	1312	F1	mg/Kg		132	70 - 130		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1-Chlorooctane	*139*	*S1+*	*70 - 130*
o-Terphenyl	*131*	*S1+*	*70 - 130*

Lab Sample ID: 880-5966-A-1-E MSD
Matrix: Solid
Analysis Batch: 7794

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 7733

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Gasoline Range Organics (GRO)-C6-C10	<49.8	U	999	913.6		mg/Kg		90	70 - 130	14	20
Diesel Range Organics (Over C10-C28)	<49.8	U F1	999	1182		mg/Kg		118	70 - 130	10	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1-Chlorooctane	*125*		*70 - 130*
o-Terphenyl	*118*		*70 - 130*

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1248-1
SDG: 31403236.022.0129

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 880-7805/1-A
Matrix: Solid
Analysis Batch: 7922

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			09/16/21 00:32	1

Lab Sample ID: LCS 880-7805/2-A
Matrix: Solid
Analysis Batch: 7922

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	254.9		mg/Kg		102	90 - 110		

Lab Sample ID: LCSD 880-7805/3-A
Matrix: Solid
Analysis Batch: 7922

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	255.6		mg/Kg		102	90 - 110	0	20

Lab Sample ID: 890-1242-A-1-B MS
Matrix: Solid
Analysis Batch: 7922

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	13.5		249	271.5		mg/Kg		104	90 - 110		

Lab Sample ID: 890-1242-A-1-C MSD
Matrix: Solid
Analysis Batch: 7922

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	13.5		249	272.0		mg/Kg		104	90 - 110	0	20

Lab Sample ID: 890-1247-A-1-C MS
Matrix: Solid
Analysis Batch: 7922

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	105		1240	1387		mg/Kg		103	90 - 110		

Lab Sample ID: 890-1247-A-1-D MSD
Matrix: Solid
Analysis Batch: 7922

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	105		1240	1386		mg/Kg		103	90 - 110	0	20

Lab Sample ID: MB 880-7867/1-A
Matrix: Solid
Analysis Batch: 7982

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			09/16/21 23:42	1

QC Sample Results

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1248-1
SDG: 31403236.022.0129

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCS 880-7867/2-A
Matrix: Solid
Analysis Batch: 7982

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			250	251.8		mg/Kg		101	90 - 110		

Lab Sample ID: LCSD 880-7867/3-A
Matrix: Solid
Analysis Batch: 7982

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	252.7		mg/Kg		101	90 - 110	0	20

Lab Sample ID: 880-6050-A-1-C MS
Matrix: Solid
Analysis Batch: 7982

Client Sample ID: Matrix Spike
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	247		250	487.3		mg/Kg		96	90 - 110		

Lab Sample ID: 880-6050-A-1-D MSD
Matrix: Solid
Analysis Batch: 7982

Client Sample ID: Matrix Spike Duplicate
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	247		250	487.8		mg/Kg		97	90 - 110	0	20

QC Association Summary

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1248-1
SDG: 31403236.022.0129

GC VOA

Prep Batch: 7802

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1248-1	BH02	Total/NA	Solid	5035	
890-1248-2	BH02A	Total/NA	Solid	5035	
890-1248-3	BH03	Total/NA	Solid	5035	
890-1248-4	BH03A	Total/NA	Solid	5035	
890-1248-5	BH04	Total/NA	Solid	5035	
890-1248-6	BH04A	Total/NA	Solid	5035	
890-1248-7	BH05	Total/NA	Solid	5035	
890-1248-8	BH05A	Total/NA	Solid	5035	
MB 880-7802/5-A	Method Blank	Total/NA	Solid	5035	
LCS 880-7802/1-A	Lab Control Sample	Total/NA	Solid	5035	
LCSD 880-7802/2-A	Lab Control Sample Dup	Total/NA	Solid	5035	
890-1241-A-21-C MS	Matrix Spike	Total/NA	Solid	5035	
890-1241-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 7820

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1248-1	BH02	Total/NA	Solid	8021B	7802
890-1248-2	BH02A	Total/NA	Solid	8021B	7802
890-1248-3	BH03	Total/NA	Solid	8021B	7802
890-1248-4	BH03A	Total/NA	Solid	8021B	7802
890-1248-5	BH04	Total/NA	Solid	8021B	7802
890-1248-6	BH04A	Total/NA	Solid	8021B	7802
890-1248-7	BH05	Total/NA	Solid	8021B	7802
890-1248-8	BH05A	Total/NA	Solid	8021B	7802
MB 880-7802/5-A	Method Blank	Total/NA	Solid	8021B	7802
LCS 880-7802/1-A	Lab Control Sample	Total/NA	Solid	8021B	7802
LCSD 880-7802/2-A	Lab Control Sample Dup	Total/NA	Solid	8021B	7802
890-1241-A-21-C MS	Matrix Spike	Total/NA	Solid	8021B	7802
890-1241-A-21-D MSD	Matrix Spike Duplicate	Total/NA	Solid	8021B	7802

GC Semi VOA

Prep Batch: 7733

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1248-1	BH02	Total/NA	Solid	8015NM Prep	
890-1248-2	BH02A	Total/NA	Solid	8015NM Prep	
890-1248-3	BH03	Total/NA	Solid	8015NM Prep	
890-1248-4	BH03A	Total/NA	Solid	8015NM Prep	
890-1248-5	BH04	Total/NA	Solid	8015NM Prep	
890-1248-6	BH04A	Total/NA	Solid	8015NM Prep	
890-1248-7	BH05	Total/NA	Solid	8015NM Prep	
890-1248-8	BH05A	Total/NA	Solid	8015NM Prep	
MB 880-7733/1-A	Method Blank	Total/NA	Solid	8015NM Prep	
LCS 880-7733/2-A	Lab Control Sample	Total/NA	Solid	8015NM Prep	
LCSD 880-7733/3-A	Lab Control Sample Dup	Total/NA	Solid	8015NM Prep	
880-5966-A-1-D MS	Matrix Spike	Total/NA	Solid	8015NM Prep	
880-5966-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015NM Prep	

Analysis Batch: 7794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1248-1	BH02	Total/NA	Solid	8015B NM	7733

QC Association Summary

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1248-1
SDG: 31403236.022.0129

GC Semi VOA (Continued)

Analysis Batch: 7794 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1248-2	BH02A	Total/NA	Solid	8015B NM	7733
890-1248-3	BH03	Total/NA	Solid	8015B NM	7733
890-1248-4	BH03A	Total/NA	Solid	8015B NM	7733
890-1248-5	BH04	Total/NA	Solid	8015B NM	7733
890-1248-6	BH04A	Total/NA	Solid	8015B NM	7733
890-1248-7	BH05	Total/NA	Solid	8015B NM	7733
890-1248-8	BH05A	Total/NA	Solid	8015B NM	7733
MB 880-7733/1-A	Method Blank	Total/NA	Solid	8015B NM	7733
LCS 880-7733/2-A	Lab Control Sample	Total/NA	Solid	8015B NM	7733
LCSD 880-7733/3-A	Lab Control Sample Dup	Total/NA	Solid	8015B NM	7733
880-5966-A-1-D MS	Matrix Spike	Total/NA	Solid	8015B NM	7733
880-5966-A-1-E MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B NM	7733

HPLC/IC

Leach Batch: 7805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1248-1	BH02	Soluble	Solid	DI Leach	
890-1248-2	BH02A	Soluble	Solid	DI Leach	
890-1248-3	BH03	Soluble	Solid	DI Leach	
890-1248-4	BH03A	Soluble	Solid	DI Leach	
890-1248-5	BH04	Soluble	Solid	DI Leach	
890-1248-6	BH04A	Soluble	Solid	DI Leach	
890-1248-7	BH05	Soluble	Solid	DI Leach	
MB 880-7805/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-7805/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-7805/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
890-1242-A-1-B MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1242-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	
890-1247-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
890-1247-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Leach Batch: 7867

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1248-8	BH05A	Soluble	Solid	DI Leach	
MB 880-7867/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 880-7867/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
LCSD 880-7867/3-A	Lab Control Sample Dup	Soluble	Solid	DI Leach	
880-6050-A-1-C MS	Matrix Spike	Soluble	Solid	DI Leach	
880-6050-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	DI Leach	

Analysis Batch: 7922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1248-1	BH02	Soluble	Solid	300.0	7805
890-1248-2	BH02A	Soluble	Solid	300.0	7805
890-1248-3	BH03	Soluble	Solid	300.0	7805
890-1248-4	BH03A	Soluble	Solid	300.0	7805
890-1248-5	BH04	Soluble	Solid	300.0	7805
890-1248-6	BH04A	Soluble	Solid	300.0	7805
890-1248-7	BH05	Soluble	Solid	300.0	7805
MB 880-7805/1-A	Method Blank	Soluble	Solid	300.0	7805

QC Association Summary

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1248-1
SDG: 31403236.022.0129

HPLC/IC (Continued)

Analysis Batch: 7922 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 880-7805/2-A	Lab Control Sample	Soluble	Solid	300.0	7805
LCSD 880-7805/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	7805
890-1242-A-1-B MS	Matrix Spike	Soluble	Solid	300.0	7805
890-1242-A-1-C MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	7805
890-1247-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	7805
890-1247-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	7805

Analysis Batch: 7982

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 880-7867/1-A	Method Blank	Soluble	Solid	300.0	7867
LCS 880-7867/2-A	Lab Control Sample	Soluble	Solid	300.0	7867
LCSD 880-7867/3-A	Lab Control Sample Dup	Soluble	Solid	300.0	7867
880-6050-A-1-C MS	Matrix Spike	Soluble	Solid	300.0	7867
880-6050-A-1-D MSD	Matrix Spike Duplicate	Soluble	Solid	300.0	7867

Analysis Batch: 8156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
890-1248-8	BH05A	Soluble	Solid	300.0	7867

Lab Chronicle

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1248-1
SDG: 31403236.022.0129

Client Sample ID: BH02
Date Collected: 09/09/21 12:50
Date Received: 09/10/21 12:53

Lab Sample ID: 890-1248-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7802	09/13/21 10:18	KL	XEN MID
Total/NA	Analysis	8021B		1	7820	09/13/21 18:57	KL	XEN MID
Total/NA	Prep	8015NM Prep			7733	09/13/21 09:17	DM	XEN MID
Total/NA	Analysis	8015B NM		1	7794	09/13/21 18:55	AJ	XEN MID
Soluble	Leach	DI Leach			7805	09/13/21 10:32	CH	XEN MID
Soluble	Analysis	300.0		5	7922	09/16/21 02:47	CH	XEN MID

Client Sample ID: BH02A
Date Collected: 09/09/21 13:05
Date Received: 09/10/21 12:53

Lab Sample ID: 890-1248-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7802	09/13/21 10:18	KL	XEN MID
Total/NA	Analysis	8021B		1	7820	09/13/21 19:17	KL	XEN MID
Total/NA	Prep	8015NM Prep			7733	09/13/21 09:17	DM	XEN MID
Total/NA	Analysis	8015B NM		1	7794	09/13/21 19:16	AJ	XEN MID
Soluble	Leach	DI Leach			7805	09/13/21 10:32	CH	XEN MID
Soluble	Analysis	300.0		1	7922	09/16/21 02:52	CH	XEN MID

Client Sample ID: BH03
Date Collected: 09/09/21 13:30
Date Received: 09/10/21 12:53

Lab Sample ID: 890-1248-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7802	09/13/21 10:18	KL	XEN MID
Total/NA	Analysis	8021B		1	7820	09/13/21 19:38	KL	XEN MID
Total/NA	Prep	8015NM Prep			7733	09/13/21 09:17	DM	XEN MID
Total/NA	Analysis	8015B NM		1	7794	09/13/21 19:37	AJ	XEN MID
Soluble	Leach	DI Leach			7805	09/13/21 10:32	CH	XEN MID
Soluble	Analysis	300.0		5	7922	09/16/21 02:58	CH	XEN MID

Client Sample ID: BH03A
Date Collected: 09/09/21 13:45
Date Received: 09/10/21 12:53

Lab Sample ID: 890-1248-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7802	09/13/21 10:18	KL	XEN MID
Total/NA	Analysis	8021B		1	7820	09/13/21 19:58	KL	XEN MID
Total/NA	Prep	8015NM Prep			7733	09/13/21 09:17	DM	XEN MID
Total/NA	Analysis	8015B NM		1	7794	09/13/21 19:58	AJ	XEN MID
Soluble	Leach	DI Leach			7805	09/13/21 10:32	CH	XEN MID
Soluble	Analysis	300.0		1	7922	09/16/21 03:03	CH	XEN MID

Lab Chronicle

Client: WSP USA Inc.
Project/Site: JRU 36 Rambler SWD

Job ID: 890-1248-1
SDG: 31403236.022.0129

Client Sample ID: BH04
Date Collected: 09/09/21 13:55
Date Received: 09/10/21 12:53

Lab Sample ID: 890-1248-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7802	09/13/21 10:18	KL	XEN MID
Total/NA	Analysis	8021B		1	7820	09/13/21 20:19	KL	XEN MID
Total/NA	Prep	8015NM Prep			7733	09/13/21 09:17	DM	XEN MID
Total/NA	Analysis	8015B NM		1	7794	09/13/21 20:19	AJ	XEN MID
Soluble	Leach	DI Leach			7805	09/13/21 10:32	CH	XEN MID
Soluble	Analysis	300.0		1	7922	09/16/21 10:16	CH	XEN MID

Client Sample ID: BH04A
Date Collected: 09/09/21 14:05
Date Received: 09/10/21 12:53

Lab Sample ID: 890-1248-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7802	09/13/21 10:18	KL	XEN MID
Total/NA	Analysis	8021B		1	7820	09/13/21 20:39	KL	XEN MID
Total/NA	Prep	8015NM Prep			7733	09/13/21 09:17	DM	XEN MID
Total/NA	Analysis	8015B NM		1	7794	09/13/21 20:40	AJ	XEN MID
Soluble	Leach	DI Leach			7805	09/13/21 10:32	CH	XEN MID
Soluble	Analysis	300.0		1	7922	09/16/21 03:15	CH	XEN MID

Client Sample ID: BH05
Date Collected: 09/09/21 14:15
Date Received: 09/10/21 12:53

Lab Sample ID: 890-1248-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7802	09/13/21 10:18	KL	XEN MID
Total/NA	Analysis	8021B		1	7820	09/13/21 22:29	KL	XEN MID
Total/NA	Prep	8015NM Prep			7733	09/13/21 09:17	DM	XEN MID
Total/NA	Analysis	8015B NM		1	7794	09/13/21 21:01	AJ	XEN MID
Soluble	Leach	DI Leach			7805	09/13/21 10:32	CH	XEN MID
Soluble	Analysis	300.0		1	7922	09/16/21 03:20	CH	XEN MID

Client Sample ID: BH05A
Date Collected: 09/09/21 14:25
Date Received: 09/10/21 12:53

Lab Sample ID: 890-1248-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			7802	09/13/21 10:18	KL	XEN MID
Total/NA	Analysis	8021B		1	7820	09/13/21 22:49	KL	XEN MID
Total/NA	Prep	8015NM Prep			7733	09/13/21 09:17	DM	XEN MID
Total/NA	Analysis	8015B NM		1	7794	09/13/21 21:22	AJ	XEN MID
Soluble	Leach	DI Leach			7867	09/14/21 09:37	CH	XEN MID
Soluble	Analysis	300.0		1	8156	09/21/21 05:45	CH	XEN MID

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

Eurofins Xenco, Carlsbad

Accreditation/Certification Summary

Client: WSP USA Inc. Job ID: 890-1248-1
Project/Site: JRU 36 Rambler SWD SDG: 31403236.022.0129

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	T104704400-21-22	06-30-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8015B NM	8015NM Prep	Solid	Total TPH
8021B	5035	Solid	Total BTEX

Method Summary

Client: WSP USA Inc. Job ID: 890-1248-1
Project/Site: JRU 36 Rambler SWD SDG: 31403236.022.0129

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: JRU 36 Rambler SWD

Job ID: 890-1248-1
SDG: 31403236.022.0129

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Depth
890-1248-1	BH02	Solid	09/09/21 12:50	09/10/21 12:53	0.5
890-1248-2	BH02A	Solid	09/09/21 13:05	09/10/21 12:53	1
890-1248-3	BH03	Solid	09/09/21 13:30	09/10/21 12:53	0.5
890-1248-4	BH03A	Solid	09/09/21 13:45	09/10/21 12:53	1
890-1248-5	BH04	Solid	09/09/21 13:55	09/10/21 12:53	0.5
890-1248-6	BH04A	Solid	09/09/21 14:05	09/10/21 12:53	1
890-1248-7	BH05	Solid	09/09/21 14:15	09/10/21 12:53	0.5
890-1248-8	BH05A	Solid	09/09/21 14:25	09/10/21 12:53	1

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Chain of Custody

Work Order No: _____

XENCO LABORATORIES

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

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Project Manager:	Dan Moir	Bill to: (if different)	Adrian Baker
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, Kalei.Jennings@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:	JRU 36 Rambler SWD	Turn Around	
Project Number:	31403236.022.0129	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	T-PM-007		
Cooler Custody Seals:	Yes No N/A	Correction Factor:	-0.2	
Sample Custody Seals:	Yes No N/A	Total Containers:		

890-1248 Chain of Custody

Sample Identification	Matrix	Date Sampled	Time Sampled	Depth	Number of Containers	TPH (EPA 8015)	BTEX (EPA 0=8021)	Chloride (EPA 300.0)	Sample Comments
BH02	S	9/9/2021	12:50	0.5'	1	X	X	X	Discrete
BH02A	S	9/9/2021	13:05	1'	1	X	X	X	Discrete
BH03	S	9/9/2021	13:30	0.5'	1	X	X	X	Discrete
BH03A	S	9/9/2021	13:45	1'	1	X	X	X	Discrete
BH04	S	9/9/2021	13:55	0.5'	1	X	X	X	Discrete
BH04A	S	9/9/2021	14:05	1'	1	X	X	X	Discrete
BH05	S	9/9/2021	14:15	0.5'	1	X	X	X	Discrete
BH05A	S	9/9/2021	14:25	1'	1	X	X	X	Discrete

Work Order Notes

Cost Center # 1942421001
Incident # NAPP2121164390

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

ANALYSIS REQUEST

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

Notice: Signature of this document and relinquishment of samples constitutes a valid purchase order from client company to Xenco, its affiliates and subcontractors. It assigns standard terms and conditions of service. Xenco will be liable only for the cost of samples and shall not assume any responsibility for any losses or expenses incurred by the client if such losses are due to circumstances beyond the control of Xenco. A minimum charge of $75.00 will be applied to each project and a charge of $5 for each sample submitted to Xenco, but not analyzed. These terms will be enforced unless previously negotiated.

Relinquished by: (Signature)	Received by: (Signature)	Date/Time	Relinquished by: (Signature)	Received by: (Signature)	Date/Time
1		9/10/21 12:53	2		
3			4		
5			6		

Revised Date 051418 Rev. 2018.1

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9/23/2021 (Rev. 1)

Received by OCD: 10/14/2021 12:47:31 PM

Released to Imaging: 3/1/2022 11:06:17 AM

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: 890-403 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 #: 890-1248-1
Address: 1211 W Florida Ave	Due Date Requested: 9/16/2021			
City: Midland	TAT Requested (days):			
State, Zip: TX 79701				
Phone: 432-704-5440(Tel)	PO #:			
Email	WO #:			
Project Name: JRU 36 Rambler SWD	Project #: 89000004			
Site:	SSOW#:			

Analysis Requested

Preservation Codes

A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E - NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I - Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P - Na2O4S, Q Na2SO3, R - Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, 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)	300_ORGFM_28D/DI_LEACH Chloride	8015MOD_NM/8015NM_S_Prep Full TPH	8021B/5035FP_Calc BTEX	Total Number of containers	Special Instructions/Note:
			Preservation Code:								
BH02 (890-1248-1)	9/9/21	12 50 Mountain		Solid			X	X	X	1	
BH02A (890-1248-2)	9/9/21	13 05 Mountain		Solid			X	X	X	1	
BH03 (890-1248-3)	9/9/21	13 30 Mountain		Solid			X	X	X	1	
BH03A (890-1248-4)	9/9/21	13 45 Mountain		Solid			X	X	X	1	
BH04 (890-1248-5)	9/9/21	13 55 Mountain		Solid			X	X	X	1	
BH04A (890-1248-6)	9/9/21	14 05 Mountain		Solid			X	X	X	1	
BH05 (890-1248-7)	9/9/21	14 15 Mountain		Solid			X	X	X	1	
BH05A (890-1248-8)	9/9/21	14 25 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: Clue Cuff 9.10.21	Date/Time:	Company	Received by:	Date/Time: 9-13-21 9.30am	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time.	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No	Cooler Temperature(s) °C and Other Remarks: 2.1 / 2.6

Ver: 06/08/2021

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Received by OCD: 10/14/2021 12:47:31 PM
9/23/2021 (Rev. 1)
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Released to Imaging: 3/1/2022 11:06:17 AM

Login Sample Receipt Checklist

Client: WSP USA Inc.

Job Number: 890-1248-1
SDG Number: 31403236.022.0129

Login Number: 1248
List Number: 1
Creator: Clifton, Cloe

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: 890-1248-1
SDG Number: 31403236.022.0129

Login Number: 1248
List Number: 2
Creator: Copeland, Tatiana

List Source: Eurofins Xenco, Midland
List Creation: 09/13/21 09:30 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	2.1 / 2.6
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 56035

CONDITIONS

Operator: XTO ENERGY, INC 6401 Holiday Hill Road Midland, TX 79707	OGRID: 5380
	Action Number: 56035
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
rhamlet	We have received your closure report and final C-141 for Incident #NAPP2121164390 JAMES RANCH UNIT 36 RAMBLER SWD, thank you. This closure is approved.	3/1/2022